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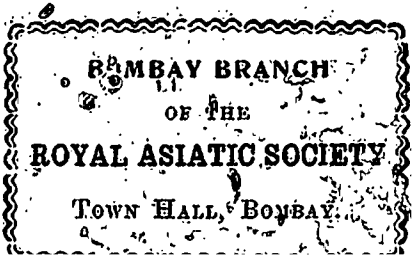

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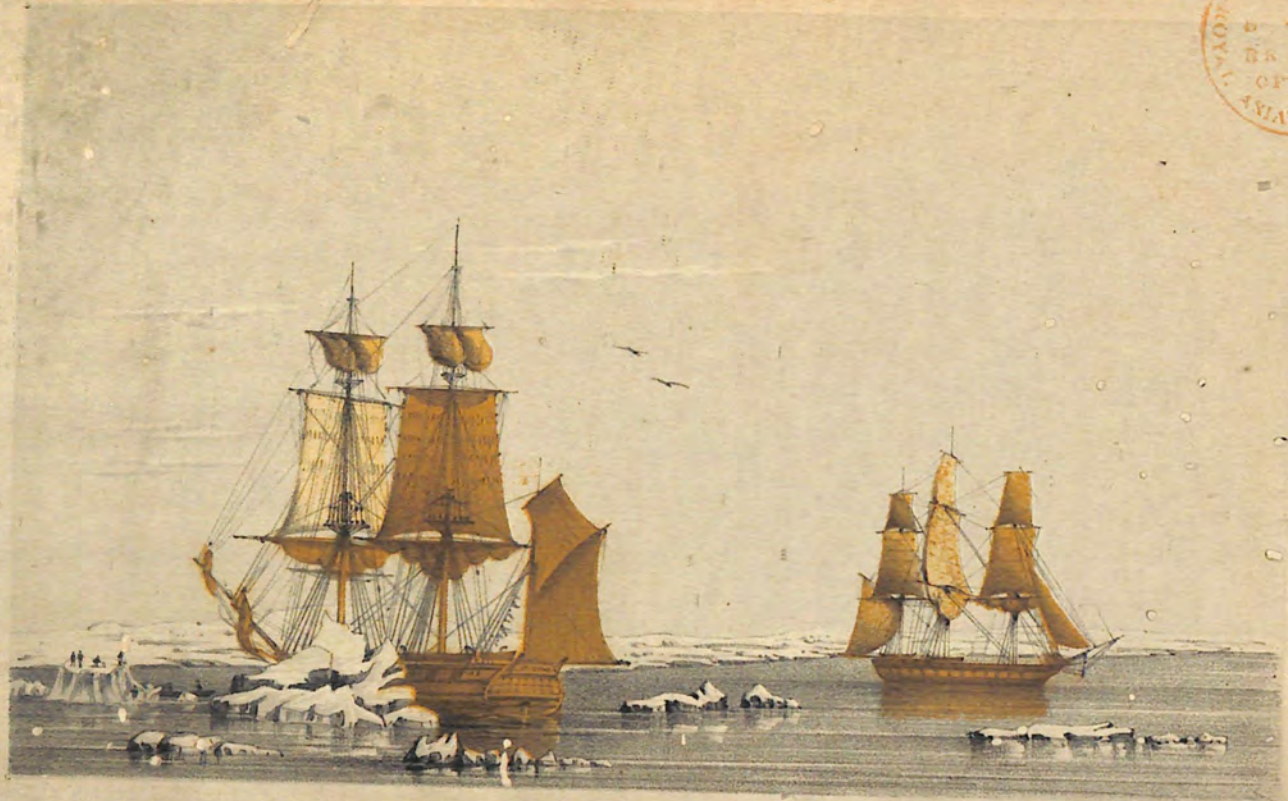

H.M.S. HERALD AND PLOVER IN BEHRING'S STRAIT.

Printed by Hullmandel & Walton

ROYAL ASIATIC

NARRATIVE

OF THE

VOYAGE OF H.M.S. HERALD

DURING THE YEARS 1845–51,

UNDER THE COMMAND OF

CAPTAIN HENRY KELLETT, R.N., C.B.;

BEING

A Circumnavigation of the Globe,

AND THREE CRUIZES TO THE ARCTIC REGIONS IN SEARCH OF SIR JOHN FRANKLIN.

32733

BY

BERTHOLD SEEMANN, F.L.S.,

MEMBER OF THE IMPERIAL L.C. ACADEMY NATURÆ CURIOSORUM,
NATURALIST OF THE EXPEDITION, ETC.

IN TWO VOLUMES.

VOL. I.

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LONDON:
REEVE AND CO., HENRIETTA STREET, COVENT GARDEN.

1853.

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PRINTED BY
JOHN EDWARD TAYLOR, LITTLE QUEEN STREET,
LINCOLN'S INN FIELDS.

TO

SIR WILLIAM JACKSON HOOKER,

K.H., D.C.L. OXON., LL.D., F.R.A.S., A., AND L.S., VICE-PRESIDENT OF THE LINNEAN SOCIETY, AND DIRECTOR OF THE ROYAL GARDENS, KEW, ETC. ETC.,

WHOM SCIENCE NUMBERS

AMONGST ITS MOST ARDENT PROMOTERS,

AND TO WHOM

THE AUTHOR IS SO DEEPLY INDEBTED FOR HIS GENEROUS

ENCOURAGEMENT AND READY ASSISTANCE,

THIS

Narrative of the Voyage of H.M.S. Herald

IS DEDICATED,

WITH FEELINGS OF ESTEEM AND GRATITUDE,

BY

BERTHOLD SEEMANN.

PREFACE.

In July, 1846, after the death of Mr. Thomas Edmonston, I had the honour of being appointed Naturalist of H.M.S. Herald,—having been recommended to that office by Sir W. J. Hooker,—and directed to join the vessel at Panama. Proceeding by one of the West India Mail Steamers to Chagres, I crossed over the Isthmus, and arrived at the city of Panama on the 22nd of September. The Herald not having returned from the Straits of Juan de Fuca, I employed my time in exploring various districts of Panama and Veraguas, a task which was rendered comparatively easy by the assistance I received from Her Majesty's Consul, William Perry, Esq., to whom I had a letter of introduction from Lord Palmerston. In January, 1847, the Herald returned to Panama, and from that time, until she was paid off, I accompanied her.

On the return of the expedition to England, a repre-

sentation was made to Her Majesty's Government by several men of eminence, that science would be greatly benefited if the various collections of Natural History formed during the voyage could be brought before the public in a manner worthy of the times and the country. The Government responded to these wishes by granting a sum of money to defray part of the expenses of such a publication, and Professor Edward Forbes, with a disinterested zeal truly praiseworthy, volunteered to edit the zoological section, while I engaged to undertake the phytological. These works are partly before the public, and may, together with the series of charts laid down in our survey, and issued by the Hydrographical Office, and the present Narrative, be looked upon as the principal result of the voyage. It is but fair however to state, both in justice to the Captain who conducted the expedition and to the officers engaged in it, that a great mass of the materials still remain unpublished. The nautical, meteorological, magnetical, astronomical, and other observations are so numerous that they would fill several thick quarto volumes, and could not possibly be comprised within the limits of an appendix to this Narrative; but it is to be hoped that they will not be lost to science.

The present Narrative was to have been written by the

Commander of the expedition; but as Captain Kellett was called upon to renew the search for Sir John Franklin's Expedition, and all those officers of the Herald who were either willing or able to perform the part of historian of the voyage had left these shores, I was compelled to engage in an undertaking for which I fear I was but ill qualified. I have commenced it the more reluctantly because I am fully aware of the difficulties. Formerly, when everything was new and striking, both to the author and the reader, an amusing and instructive work was easily written. But now, nearly every school-boy is able to give a tolerably accurate account of the most remote corners of the globe, and if a traveller wants to bring forward something new, he must dive into details which, valuable as they may be to science, are not always appreciated by the general reader.

The materials from which this work has been compiled are not so rich as could be wished. That portion of Captain Kellett's journal relating to the first volume is entirely wanting, and cannot, in the absence of its author, be procured. Commander J. Wood's diary has not been sent to me, and this must be considered as the reason why the movements of the Pandora are not more frequently alluded to. Lieutenant (now Commander) Henry Trollope made ample notes during the

first year of the voyage, which have supplied the substance of the account of the cruize of the Herald during that period. Mr. Bedford Pim kept a journal when in the Arctic regions, and also during his journey with me in Peru and Ecuador, of which I have been allowed to avail myself. Mr. Whiffin, Mr. Jago, and Mr. Hull have supplied me with extracts from their diaries, and Mr. Chimmo with the illustrations for this work. I have thought it the more necessary to make this statement, in order to escape the charge of having given precedence to my own journal, which, in many instances, was the only source of information.

As I did not join the Herald before January, 1847, and had to write an account of the voyage from the beginning, I submitted the proof-sheets relating to the Brazils, the Falkland Isles, Chile, and Peru, to Dr. J. D. Hooker and John Miers, Esq., who, having themselves explored those countries, were kind enough to point out any inaccuracies they detected, and add here and there a passage calculated to improve my account. I have also had the advantage of the valuable assistance of Commander H. Trollope, who looked over every proof-sheet, and have derived great benefit from the liberality of Sir William Hooker, who permitted me to consult his extensive library and Herbarium.

Fact is the object I have aimed at throughout the following pages, on the strict adherence to which will rest their sole recommendation. If however, while abstaining from all fictitious colouring, and with a paucity of adventure, I have succeeded in producing an arrangement not inharmonious or displeasing, I shall have attained a position far beyond that to which I have been carried by my most flattering hopes or sanguine expectations.

Kew Green, December 31, 1852.

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ARCTIC SEA
EUROPE
ASIA
AFRICA
INDIAN OCEAN
PACIFIC OCEAN
ATLANTIC OCEAN
NORTH AMERICA
GREENLAND
AUSTRALIA
BRAZIL
Behrings Sea
Hudson's Bay
Bay of Panama
THE ISTHMUS OF PANAMA.
Map of the World
illustrating
B. SEEMANN'S NARRATIVE
OF THE
VOYAGE OF H. M. S. HERALD
under the command of
CAPTAIN H. KELLETT, R.N. C.B.

NARRATIVE OF THE VOYAGE

OF

H.M.S. HERALD.

CHAPTER 1.

Departure from England—Madeira—Porto Santo—Desertas—Teneriffe—A Ship in distress—San Antonio—Soundings—Fernando de Noronha—The Jangadas—Rio Janeiro.

On Thursday, June 26th, 1845, H.M.S. Herald, twenty-six guns, under the command of Captain Henry Kellett, C.B., accompanied by her tender, the Pandora, Lieutenant Commander James Wood, sailed from Plymouth Sound. It was fine and clear, but heavy clouds were gathering in the south-west, and on the following day she was visited in the chops of the Channel by a gale with all its accompaniments—the topgallant masts and yards on deck; barometer down to 29·48; wind, sea, mist, rain, and fog. This weather, with occasional gleams of sunshine, continued until the 4th of July, when we were off Cape

Finisterre*. The land was in sight for two days, and we approached it near enough to meet many Spanish barques, brigs, and schooners, mostly fine-built vessels, but slovenly in sails and rigging.

On the 7th of July we exchanged, by Marryatt's signals, numbers with the Thames steam-vessel, sailing and steaming for Madeira and the West Indies. On the 11th we sighted Porto Santo, a barren rocky spot, but, as its name indicates, viewed by its first tempest-tossed discoverers with thankful hearts, when, in their endeavours to circumnavigate Africa, they were driven out to sea, and on the point of perishing. The island, when discovered, was, according to some accounts, inhabited; according to others, desolate. In 1418 Don Henry of Portugal caused it to be colonized, and Perestrello, a gentleman of the Prince's household, was appointed its first governor. Observing from time to time a cloud to the south-west, the settlers sailed to examine it, and discovered Madeira. The superior advantages of that island caused Porto Santo to be neglected, and Madeira resumed its intercourse with Europe. We say resumed, because, as the story goes, in the reign of Edward II. an Englishman named Machim fled to it with his newly-married wife, the beautiful Anna d'Arfet. Love however, it seems, was not sufficient to compensate for the many hardships they had to undergo, and the many privations to which they were exposed, as both, it is stated, died of grief. Some corroboration to this strange

* Our observations verified what has been commonly remarked in the passage across the Bay of Biscay,—that there is an easterly current of about half a mile an hour.

story is lent by there being on the south-east coast a place called Maghio or Machico*. Porto Santo appears at first sight like two islands. Passing to the eastward, the town on its southern coast has a conspicuous and pleasing aspect; the church tower being very prominent gives an air to the place which probably would hardly be borne out on closer acquaintance. The island produces corn, but is said to be deficient in good water; it contains 1600 or 1700 people, and its anchorage is, in the winter, preferable to that of Funchal. The highest peak is 1600 feet above the sea.

The Desertas were seen at noon. They bear south-east eleven miles from Madeira, and are three in number, perfectly barren, and only frequented by fishermen, who repair thither for collecting Orchil. The northernmost isle is a high pyramidal rock, often mistaken for a sail, which indeed it much resembles. From the Desertas the Salvages bear south 17°, east 145°. We did not sight the latter, although it was rather wished to do so; a fresh breeze from the eastward appeared to cause a corresponding set to the westward, and thus prevented us from carrying out our intention.

At daylight on the 13th of July the Peak of Teneriffe was in sight—a grand and solitary object, towering in all the pride of desolation; for though there is a vast deal of fertility, it is not very apparent from seaward, and the island seems almost to rival Ascension in ruggedness and aridity. The breeze was so strong in the offing, that it was necessary to reef topsails; but it fell light and

* Barbeau, however, says it was known to the ancients under the name of Clone Atlantice.—Mappe-Monde Historique, 1759.

variable as our vessels neared Santa Cruz. We anchored about noon. The town of Santa Cruz is famous in naval history. Robert Blake, an Oxonian, a member of Parliament, a colonel, and an admiral, there performed his most adventurous and daring action. On the 20th of April, 1657, he attacked and utterly destroyed the Spanish fleet strongly placed under the batteries, and, aided by a sudden shift of wind, drew off his squadron with comparatively little loss. This singularly gallant exploit, after a career unparalleled for daring, was performed while suffering from dropsy and scurvy. If there is one name in English history commanding admiration for all the qualities which became a man, for goodness and greatness combined, it is that of the soldier-admiral, whom the great Protector and the noble historian of the Royalist cause have alike united to honour.

It was a sudden shift of wind that led Nelson to undertake the expedition against Teneriffe; an expedition which, unsuccessful and disastrous as it was, displayed the most exalted heroism, and showed a generous enemy able to appreciate the merits of an opponent, and not carrying warfare beyond certain limits. There are few more interesting episodes than the interview of Captain Samuel Hood with Don Juan Guttierez, in the citadel of Santa Cruz, when the boldness and presence of mind of the Englishman was met by the generosity and admiration of the Spaniard. The tattered remains of some of the English ensigns are retained in the church, and the inhabitants still bear in mind the attack and repulse of the 24th of July, 1797.

On the 15th of July, at daylight, we made sail.

So light and variable was the wind, that we were baffled for some time under the land, and it was not until ten or eleven A. M. that the breeze became steady from east-north-east. The trade-wind took us smoothly and delightfully along to the south-west, and at sunset we lost sight of the Peak, about forty miles distant. On the following day we fell in with a Spanish schooner of twenty-five or thirty tons, which sent a boat to us asking for water. Having been fishing under Cape Blanco for mullet, bream, rock cod, snappers, and soles, the vessel had been blown off the African shore by strong south-east breezes, and been six weeks from Gran Canaria. She was nearly full, but in sad want in other respects. In the wretched craft there were upwards of twenty people, living more like savages than civilized men. Their only instrument appeared to be a compass, and having got off their reckoning, they would have suffered great distress had we not accidentally relieved them. In addition to water, Captain Kellett gave them a bag of bread, so that their mishap proved their gain. Meeting the frail barque on this spot and in distress reminded us of Prince Henry's early navigators and their sufferings, in attempting to round the terrible Cape Boiador. A heavy surf prevails on this coast, and landing is both dangerous and difficult, and falling in with this vessel gave some notion of what navigation must have been in the caravels and pinnaces of former days.

The trade-wind took us smoothly along six or seven knots an hour. On the 21st of July, the peak of San Antonio, which, according to Owen, is 9700 feet above the sea, was in sight. The wind fell light as we ap-

proached the island—an occurrence so common, that it is given as a reason for avoiding the group: with us, however, it soon freshened, but we stood off west for a few hours to clear the isle. Except Santiago, San Antonio is the largest of the Cape de Verde Islands, and Terrafal Bay, at its south-east extremity, is said to be a most convenient place for obtaining refreshments. Charles Darwin, the companion of Captain Fitzroy, notices the peculiarly hazy appearance of the atmosphere, and attributes it to an impalpable dust which constantly falls, even on vessels far out at sea. This dust is of a brown colour, and supposed to be produced from the wear and tear of volcanic rocks, either among the islands or on the African coast. The drier the atmosphere, the more extensive is the dusty cloud.

On Friday, the 25th of July, in 11° north and 24° west, we lost the trade-wind, and calms, light winds, and heavy rain prevailed for the next two days. From Sunday, the 27th, in 9° north and 23° west, south-west breezes were more steady than could be expected in "the Variables." We encountered a head sea and sharp squalls, with occasional showers, until the 1st of August, when the south-west hauled into the trade in 6° north, 24° west. A disagreeable head-swell still continued; the trade-wind had much southing in it. We were rather far to the westward, and began to feel anxious about Cape San Roque. The passage between Africa and America is a broad one; still vessels have been set to leeward, and obliged to bear up for Barbadoes.

On the 5th of August we crossed the line in 29° 15′ west, and on the following day, in 2° south and 30° west,

in the middle watch, the look-out man reported breakers. These appeared to be luminous bands in the water, stretching north-east and south-west, so like reefs or over-falls, that, had we been less sure of our position, we might well have imagined them to be such. At intervals of 200 or 300 yards we continued passing these streaks or bands for upwards of an hour; they quite illumined the sea, and presented a brilliant spectacle. In a dark night we were able faintly to distinguish writing, holding a watch-bill over the gangway. This fact will perhaps give a notion of the mass of light they emitted.

On the 7th of August, in lat. 2° 32′ south and long. 30° 53′ west, the pinnace was hoisted out to try for soundings in the deep sea. Her windlass had 3500 fathoms of five-yarn spunyarn wound round it, and the sinker was iron ballast. When it had taken 2995 fathoms out, it stopped; thirty or forty fathoms more were paid out, and the boat drifted to the current, which before it did not do; it was hauled in, and the boat again became stationary; veering once more, she again drifted to the current—signs tolerably conclusive that bottom was struck. The experiment occupied four hours. On board we sounded with 400 fathoms of line, trying the temperature at different depths; that of the air was found to be 80°, of the water on the surface 78°, and at 400 fathoms depth 50·5°. The current was setting nearly two miles an hour to the south-west-by-west; this result agreed tolerably with the difference between the dead reckoning and the observations, and also corroborates all former experience.

On the 7th of August the trade-wind was hanging

so much to the southward, and the current setting so strongly to the south-west, that we felt anxious about weathering Cape St. Augustine. At 8 A.M. Fernando de Noronha was in sight. This group consists of two islands and several rocks, exposed to the whole swell of the Atlantic Ocean, and the surf breaks constantly and heavily upon its shores. The islands are strange specimens of volcanic formation; needle-like rocks, sugar-loaf pinnacles, and over-hanging cliffs, rival even the Pieter Botte in fantastic forms. The current swept us down on the islands; at noon we passed five miles to windward of them, the centre pyramid or minaret bearing north 6° west, the south-west point north 36° west. The centre peak is an extraordinary rock, nearly 800 feet high, and so regular and exact in its form that at a distance it is difficult to believe it is not a work of art. A fort, strong in appearance, is the principal object in view, and is occupied by the Brazilian Government chiefly as a convict establishment. There is something horrible in looking at such a spot. To think of the countless sighs and curses of those whose crimes or misfortunes have caused them to be thus penned up by a half-civilized people! What feelings of despair and wretchedness must be theirs, as, day after day, they view the cliffs and peaks which form but a break in the monotony of a voyage—a subject for conversation, to be forgotten in other scenes of an ever-changing life! For the safer custody of the prisoners, no boats are allowed. Fish is abundant; fine cattle are pastured; fresh beef, milk, vegetables, and fruit can be obtained in cases of necessity. The islands were at one time a rendezvous for whale-ships; now, visits

are discouraged, nor, considering the change in the state of Brazil during the last thirty years, would any vessel wish to touch at an exposed and dangerous anchorage when everything can be got from the ports on the main-land.

On the 9th of August, in 7° 30′ south and 34° 15′ west, the coast of Brazil was sighted. After sunset, being in twenty-two fathoms, we stood off the shore, and fell in with the harbingers of land in those parts, the Jangadas. A ship is a wonderful thing, but it seems even more wonderful to meet these extraordinary rafts in the open sea. Mr. Koster, who published his interesting travels in North Brazil, 1809–1812, thus describes them: "The Jangadas are rafts of six logs, of a peculiar species of light timber, lashed or pinned together, a large lateen sail, a paddle used as a rudder, a sliding keel let down between the two centre logs, a seat for the steersman, and a long forked pole upon which is hung the vessel containing water, provisions, etc. These rude floats have a most singular appearance, no hull being apparent even when near them. They are usually managed by two men, and go closer to the wind than any description of vessel."

The nights were now beautiful; the Centaurus, the Southern Cross, the Ship Argo, and the fiery Antares, were so many novel spectacles, while Venus setting in the west, Mars and Jupiter rising in the east, and Cassiopeia and the Great Bear standing in the north, carried back the mind to home and friends. Brilliant meteors with rocket-like trains added to the beauty of the firmament. Breezes, generally steady, and varied by a squall

or a calm of a few hours, carried us six or seven knots an hour, until within 200 miles of Cape Frio, when, to our surprise, land was reported; the exact resemblance of some vapours deceived almost every one, and even at first caused fears as to the chronometers, but a sounding of forty-eight fathoms having been obtained and an altitude of Jupiter giving 23° 11′ south, we hauled up three points, from west-south-west to west-by-north, and at daylight made Cape Frio. This observation was a very useful one; since noon on the Sunday a current had set more than twenty miles to the southward, and had the west-south-west course been continued we should have been to the southward of Ilha Raza with wind and current against us. In coming from the southward, bound to Rio Janeiro, ships have often been more than a week getting up the last hundred miles of the voyage, from an error in making the land too far to the southward and westward. Approaching the coast of America, the trade-wind at this season usually fails, or rather changes its direction on nearing the land. Between March and September the change is the least apparent, east-by-north and east-south-east being the prevalent direction; but between the months of September and March it is frequently altogether reversed—north-by-east and north-east-by-east are then the prevalent winds. This circumstance was always taken advantage of by the commanders of the Falmouth packets, who in the former months touched at Bahia and Pernambuco in the return voyage; while in the latter, between September and March, they called at those ports in the outward voyage. But steam, mighty steam, will cause these local circumstances, im-

portant as they have hitherto proved, to be overlooked and forgotten.

Although it was the season for easterly and east-south-east winds, we had a touch from the north-north-east, bringing with it thick hazy weather, and not until the 18th of August did we make Ilha Raza lighthouse. The province of Rio Janeiro between Cape Frio and Ilha Grande is extremely mountainous; a succession of peaks occur, which incline to the westward with one exception, the Paõ d'Azucar, or Sugar-loaf. This rock guides the navigator, for the harbour of Rio is only a blind one; and Don Juan de Solis, the discoverer, found that the aborigines called it "Nitherohy," that is, the hidden water, a very appropriate name, the entrance being concealed until in front of the inlet.

The breeze failed us just on entering the port; at eight P.M. it fell calm, and the ebb tide making strong, we were obliged to anchor. Rio Janeiro is famed as one of the marvels of beautiful scenery, and there is only one place to be compared with it, perhaps to excel it, that is in the Bosphorus, where for twenty miles the channel of the Ottomans unfolds in succession hill, valley, and plain, towers, palaces, and mosques. There is something of this kind at Rio, but the *coup d'œil* seems to burst more upon the spectator in meridian splendour, whereas at Constantinople fresh beauties, new charms, hidden splendours, open on one as he advances. The mind, carried away by the ever-changing, ever-beautiful scene, almost asks, can this be real?—as if one was in a pleasant dream, and would fear to awake. The first visit to Rio is not easily forgotten: the wooded heights, the

green valleys, the rugged peaks, and distant mountains, are looked upon with all the interest that the first sight of the New World causes. But to describe the harbour itself words utterly fail. Surprise, admiration, delight, all that earth can imagine, seems to open out, and one looks back to that pleasure as the purest ever enjoyed.

On the 19th of August, at one P.M., when the flood tide made, we got under way. The breeze, however, was so light, in fact the ship was drifting up with the tide only, that we were again obliged to let go the anchor, to avoid fouling some vessels in the fair way; and it was not until three P.M. that we took up our position off the city, where H.M. ships Grecian, Crescent, Seagull, Penguin, and Spy, the U.S. frigates Raritan and Bainbridge, and the Brazilian frigate Isabella, were met with.

Rio Janeiro is, properly speaking, the name of the bay which Solis discovered and mistook for the mouth of a river; it is a fine inlet, upwards of forty miles in circumference, having no stream of any importance falling into it. A French adventurer, Villegagnon, at the head of an expedition which professed to afford liberty of conscience to the Huguenots, took possession of an island in the bay; but after committing various atrocities in endeavouring to found a colony, in which the Protestants suffered more persecution than they had left behind, he was driven out on the 20th of January, 1540, never having occupied more than the small island still called after him. Struck with the advantageous position, Mem de Sa founded the new city, destined to be the capital of Brazil, and named it after the martyr San Sebastian, and also in honour of Sebastian, the then King of Por-

tugal. The name, however, has become obsolete. San Salvador (Bahia), and Pernambuco were cities of repute before Rio Janeiro was thought of, but the advantageous position of the latter, and its exemption from the disputes between Portuguese, Spaniards, and Dutch for the possession of the Brazils, conduced to its prosperity. "Happy is the country the history of which is a blank." Nothing remarkable appears to have happened to Rio until 1710, when the place was attacked by a French force. The attack was defeated, but the Portuguese exercised their victory with so much barbarity that the celebrated Duguay Trouin was sent by Louis XIV. to revenge his countrymen, who stormed, took possession of, and at last consented to ransom the city for the sum of 600,000 cruzadoes (about £60,000), a large sum in those days, and giving a notion of the wealth of the inhabitants.

The discovery of the gold and diamond mines in the province of Minas Geraes gave Rio Janeiro fresh importance in the eyes of the Portuguese; it was also more easily defended than Bahia: and in 1763 the Viceroy Conde d'Acunha was ordered to transfer to it the seat of government. In November, 1768, Lieutenant Cook visited the place. The illustrious navigator gives a somewhat ludicrous account of the ignorance and jealous formality of the Government. He considered the town about the size of an English seaport, not excepting Bristol or Liverpool. The former at that time had about 40,000 inhabitants, the latter less than 50,000, so that Rio probably contained between 40,000 and 50,000. On the arrival of the Court and Prince Regent of Portugal

it was estimated at less than 100,000; and such was the impulse this arrival gave, that it is supposed 20,000 persons, Portuguese, English, Germans, etc., in the course of the year 1808–1809 settled in the immediate neighbourhood. The population never appears to have been known by an accurate census; in 1819 it was estimated at 120,000, in 1833, 140,000, and in 1845, 160,000, or by some at even 180,000, which last, from the crowds seen in the streets and the extensive suburbs, does not seem to be overrated.

Rio Janeiro is a disagreeable town, and, like the city of the Sultan, it must be viewed from afar,—"distance lends enchantment to the view." It is a city of contradictions. Charmed with the prospect of its beauty, the traveller is eager to land, but ere he reaches the shore he is assailed with noisome smells which well-nigh drive him back. He sees a magnificent hotel, where every luxury that French cookery can afford is to be procured, and a negro munching farinha, the simplest food in the world. The old city, that visited by Cook and Lord Macartney, lies between Cobras Isle Point and Ponta de Calabouça, and occupies an irregular quadrangle, more than a mile in length and less than three-quarters of a mile in breadth, but bears no more proportion to the present capital of Brazil than "*the city*" does to the metropolis of Great Britain. Nevertheless it has a peculiar aspect, and, as a monument of a bygone age, an interest which the more modern part of the town does not possess.

Landing and turning to the right, you see before you a large square; the Imperial palace, a large house, neat

and regular in its exterior, occupies the south side, and communicates with other apartments on the west side. These buildings and the adjoining church were part of a Carmelite convent. The north side of the square is formed by shops and cafés; the east side is open to the sea. Although having nothing imposing or even pleasing about it, yet the square is convenient as the chief landing-place of a large commercial city. From the north-west corner of it the Rua Direita runs due north and south; from this narrow streets diverge at right angles, and these are crossed by numerous others. The Rua Direita is the most bustling, as the general mart of traffic; the Rua d'Ouvidor the gayest and most splendid, being the abode of the French and Portuguese jewellers, goldsmiths, milliners, etc.; the Rua d'Alfandeza the richest, being chiefly occupied by the merchants and agents of Manchester, Birmingham, Sheffield, and Leeds; and the Rua dos Pescadores the most respectable, containing the houses of the staid English merchants, who for forty years have been as well known as the heads of the Government. These streets have a similar aspect; the buildings are generally three or four stories high, and gloomy and dull in appearance, with balconies to the windows. In plan they resemble the generality of London houses,—long narrow passages, steep staircases, rooms mostly communicating with one another, lofty and well proportioned, but plainly furnished. The ground-floor is the store or shop, whether wholesale or retail; the first story, counting-house, and the second, dining and sleeping rooms. Surrounded by European goods, with here and there an English, German, and French

face, stunned and almost ran down by bands of sturdy negroes, heavily laden, and singing as they run along at a pace that would astonish even a London porter, one is reminded how much this busy scene is connected for good or evil with both high and low in Lancashire and Yorkshire, or wherever industry and talent find scope for exertion.

The Rua Direita is terminated by steep eminences, on which stand the Convent of San Benedict and the Bishop's palace, said to be more commodious than that of the Emperor. The Convent, a plain building, is from its size not devoid of grandeur. It is generally understood that the Government has prohibited any new entries into the order of the Benedictines, so that in a few years the Imperial treasury will have the disposal of its revenues and estates. To the westward, the Campo de Santa Anna was the termination of the old town; it is now nearly in the centre of the city, and a large square still unfinished forms more a separation than a connection with the new city. From this part an embankment of two miles in length, called the Atterrado, crosses a marsh formed by an arm of the sea, presenting an excellent and level road that communicates with Engenho Velho, and leads to the Palace of Saõ Christovaõ, where the Emperor commonly resides. The continuity of the city on the south side is broken by a hill of some extent and of considerable elevation called the Castle Hill, on which several public buildings are erected, and on its summit is seen the well-known Telegraph. At some distance in the same direction, on the road to Calête, and forming a prominent point on the margin of the Bay,

is the Gloria Hill, with the Chapel of Nossa Senhora da Gloria. This edifice, which in itself offers nothing remarkable, constitutes one of the crowning objects in the panorama of Rio, as seen from the shipping. The ascent to the chapel from the land side is steep, but it is nevertheless much frequented. Many go there to behold from the terrace in its front one of the most beautiful landscapes that can be imagined. The hill is studded with houses, which are chiefly occupied by English merchants, who retire there after the fatigues of business, to enjoy the lovely prospect and cool breezes, that especially contribute to the charm of the situation.

The suburbs to the south, Calête and Botafogo, are in a great measure new; the slopes from the Corcovado, such as the valley of Laranjeiros and the Largo de Machado, show evident signs of increasing elegance and improvement. In 1841 the latter was little better than a field; it has now a fountain in the middle, and is planted and laid out as a garden, while houses surround it on all sides. The aqueduct is really a noble work, constructed in the year 1740 in imitation of the one at Lisbon. There are few more pleasant walks than in the morning to trace it from the city to the foot of the Corcovado. The aqueduct is solidly built, and consists, Mr. Luccock says, "of two walls, about six feet high, arched over, with sufficient space for workmen to enter it occasionally and pass through the whole length; at suitable intervals there are openings for the admission of light and air. Within is laid the canal, about eighteen inches wide, twenty-four inches deep, and three miles long." There are numerous fountains in the city, many supplied by this

aqueduct, others from wells and springs; the supply, however, is far from being adequate to the demand.

The new town is more airy and pleasant than the old; it is like emerging from the older parts of London into the regions of St. Pancras and Camden Town; there is little taste displayed, but more freshness and cleanliness. The Brazilians do not associate much with the English; we were told, however, by more than one resident of long standing, that they were kind and friendly people, and were never more delighted than when they could confer any little kindness or civility, but, not having had the advantage of education, they were diffident in seeking the society of foreigners.

The scenery about Rio will ever be the charm of the place, and the Corcovado is perhaps the best point from which to view it. The panorama is magnificent. Around the foot of the mountain and on its sides is the primeval forest; further on, the bay of Botafogo with the smooth beach lined with houses and walks, at many bearings resembling a mountain lake. The infinite diversity of tropical vegetation is here in all its grandeur; but notwithstanding its brightness and splendour, which learned naturalists and enthusiastic travellers have described, and cannot describe too vividly, is there really, we may ask, so much superiority in tropical scenery? There is a wildness, a rank luxuriance almost defying cultivation and control, but does that compensate for the milder beauties of more temperate climes?

Coffee is the great produce of the province. Formerly it was said to have a peculiar taste, and was not considered equal to that of the West Indies, its inferiority

being attributed to the picking the berries unripe and allowing them to lie on the ground, whence they acquired an earthy disagreeable flavour. However, considerable improvements have of late years been introduced, by which the quality of the coffee has been greatly ameliorated, and its value increased. Cotton is also cultivated, but not so much as in the north, the chief ports for Brazil cotton being Pernambuco and Maranham. Sugar, introduced by the enlightened Governor, Mem de Sa, is one of the most important productions, particularly between Rio and Cape Frio. Tobacco is grown in the islands of the bay, and to the southward at Angra dos Reis, as well as in the province of Espiritu Santo, but it has never attained the fame of that of the older establishments of America and Asia. The cultivation of tea was attempted at Rio, and is still carried on in the Botanic Gardens; something, however, either in cultivation, soil, or climate, interferes with it, for it does not prosper to any extent. In the province of Saõ Paulo it has been more successful, and considerable quantities are now raised there for the internal consumption of the country.

CHAPTER II.

Departure from Rio de Janeiro—Fort of Santa Cruz—Falkland Islands—Passage round Cape Horn—Valdivia—Wreck of H.M.S. Challenger—Concepcion—Talcahuano—Old Concepcion—Aconcagua—Valparaiso.

On the 28th of August we made sail, our own boats and those of the foreign ships assisting to tow us out. The entrance to the harbour of Rio is less than a mile broad, and has a bar across, generally causing a swell, which, unless the breeze is strong and steady, renders the towing a necessary precaution. This obstacle passed, sufficient breeze is generally found to take a ship clear of the land, and, if there is not, she can anchor and be ready for the first wind that springs up. The foreign boats cast off before we reached the fort of Santa Cruz. This fort mounts thirty guns to seaward and thirty-three towards the city, and if well served they would seriously annoy an enemy, but with a fresh sea-breeze would hardly repulse an English squadron of seven or eight line-of-battle ships. In the afternoon it fell calm, and we had an opportunity of judging of the Raza lighthouse. The light is but a poor one, revolving, or rather irregularly intermittent, and seen perhaps six or seven miles off, certainly not more.

On the 30th a fresh breeze sprang up from south-east and east-south-east, continuing three days, when it hauled round to the north-north-east, varying in strength, but carrying us to the southward. On the 3rd of September our course was interrupted by a few hours of light southerly breezes, the weather becoming cold and the atmosphere so clouded, that for several days the sun was not seen. Throughout the voyage we rounded-to at the end of every watch, and tried for soundings with as much line as was practicable, sometimes seventy or eighty fathoms, rarely one hundred. Moderate breezes, alternating with fresh gales, brought us on the 19th at daylight off Berkeley Sound, Falkland Islands. A boat came off to inform us that the Governor had changed his abode from Port Louis, or Anson, as it is now termed in honour of the navigator, who it is said first pointed out the Falkland Islands as a desirable acquisition. A desirable acquisition indeed! Useful ports no doubt they are, but while yet unreclaimed land exists in any more genial climate, it will only be necessity that draws any one thither. The desolate aspect of the islands is proverbial, and we had a good opportunity of seeing it on entering Port William, a bay or sound next to Berkeley Sound. The wind, which had been right aft, was dead against us; working up we stood close to the shore. The water was perfectly smooth, although the breeze was very fresh. Every danger was pointed out by the kelp, which, as it were, lies moored off all the rocks and points. When we had reached the head of Fort William, the entrance to Stanley Harbour opened out, through which we ran, and anchored in a basin, a perfectly land-locked

sheet of water. In this admirable harbour we had some squalls, the strength and fury of which could hardly be surpassed. Whether it is the gloom of the climate that makes people think more of the wind than in other places, it is difficult to determine; but the islands certainly have not undeservedly the reputation of a breezy place. For a week it blew incessantly, alternating with hail and snow showers. True it was the vernal equinox, for which some allowance ought to be made, but several of us had been here in December and January—midsummer—when, except that it did not snow and hail, it blew as hard, and the weather seemed nearly as cold. The breezes, however, strong as they were, affected us no more than if we had been in the basin of Portsmouth dockyard, to which this harbour of the Falkland Isles may with justice be compared. It would be impossible to find a better harbour of refuge, situated at the easternmost extreme of the group; the dangers are mostly apparent, the prevalent winds off the land, smooth water to work up to the anchorage, and the necessaries of life, or at least some of them, may be procured.

The settlement had been moved from Port Louis, or Anson, more than a year ago, and consisted of the Governor, Lieutenant R. C. Moody, of the Engineers, a stipendiary magistrate, a surgeon, a clerk in charge of stores, and a detachment of twenty-five men of the Sappers and Miners. It was certainly advancing, but presented, like all new settlements, a miserable aspect. The establishment at Port Louis will not be given up; the land is far better in that neighbourhood; and when a road has been formed, it will conduce greatly to the

advantage of the islands, having two ports instead of one.

The glowing terms in which some writers speak of this group are difficult to be accounted for. Captain Mowett says, "it has a good soil, clear of rocks, susceptible of easy tillage and high cultivation." All these advantages, however, can only be proved upon trial. That it has fed vast herds of wild cattle is well known; but in this part of the world good pasturage will not alone enable man to live comfortably. Hides and beef are not so profitably exchanged at such a distance. That the islands are invaluable to the seaman in distress is evident; that they will ever be anything more is doubtful. It is not perhaps generally known, that they have already proved a refuge from utter destruction to the crew of a British man-of-war. In 1770 the Swift was wrecked in Port Desire, on the coast of Patagonia; under circumstances of peculiar hardship, and at the approach of winter, her commander, Captain William White, succeeded in reaching Port Egmont, upwards of 300 miles distant. There he fell in with the Favourite, which proceeded to the assistance of the rest of the crew. The Favourite had been engaged in forming the settlement at Port Egmont, which was so summarily dismissed by the Spaniards, who however disavowed the act of their officer. Although the English Government, from the coming distress of the American war, never re-established the settlement, yet the question, apart from politics and the bickerings of rival nations, has still an interest, as the subject of one of Johnson's pamphlets.

Stanley, at the time of our visit, numbered twenty-four

houses and about 120 persons, who were employed in building houses, wharfs, and stores. All the military force the Governor had with him were Sappers and Miners, the rest of the inhabitants being only under his civil jurisdiction. The islands occupy a space about half the size of Ireland, 120 miles by 60. Their aspect is most desolate and wretched; an undulating land covered with peaty soil and wiry grass, and intersected by ranges of hills, boggy streams, and rivulets. The geological structure is curious; in the neighbourhood of Stanley there is a cliff so much resembling a wall, that until it has been visited it is thought artificial; the strata of white granular quartz are frequently arched with perfect symmetry; seats of an amphitheatre, streams of stones, are common in East Falkland. The lower country consists of clay, slate, and sandstone, covered over with a peaty soil, which serves for fuel; the tussac grass is common.

Birds are abundant, though since Bougainville's time (1766) much diminished. Our sportsmen shot snipe, plovers, hawks, owls, and a kind of buzzard, called the Cara Cara. The penguin, that combination of fish and bird, might, as Darwin says, when crawling through the tussac grass, be readily mistaken for a quadruped. Two kinds of geese frequent the Falklands. The upland goose (*Anas leucoptera*) was brought on board by scores, and eaten and even relished by many, while others declared that, after tasting it once, only the fear of starvation would make them try it again. It is, however, said that if skinned and kept for some time it may be deprived of the strong fishy flavour; decomposition might change it,

but nothing else. The rock goose (*Anas Antarctica*) lives exclusively on the sea-beach, and tastes even worse than the former; the most hardy were deterred from eating it; in the autumn however, when feeding on berries, both kinds lose in a measure this disagreeable quality. The logger-headed duck, which Darwin so appropriately styles 'the steamer,' is another inhabitant, and weighs at times twenty pounds. It has received the name from its manner of propelling itself by paddling and splashing in the water; its wings are too small and weak to allow of flight, but by their aid, partly swimming and partly by flapping the surface of the water, it moves very quickly, making a very curious noise. The steamer is able to dive for a short distance only; it feeds on shell-fish from the kelp and tidal rocks. At Sparrow Cove, at the head of Port William, we saw some horses which sprang from those brought by Bougainville; they are of a small and weak growth, a contrast to the bullocks, which are generally fine animals. The horses have never left the eastern part of the island, although there is no natural boundary to prevent them.

In making the Falkland Islands a strong colony for the benefit of vessels in distress, it would be desirable to add a couple of cutters of from forty to fifty tons, or a small steamer of one hundred tons, to visit the distant parts of the group. A vessel might now be wrecked to the westward, and her crew, unable to reach Stanley, would reap no more benefit from the establishment than did the unfortunate Wager's crew from the proximity of the Anna Pink. Since our visit a triangular beacon has been erected on Cape Pembroke, the easternmost part

of the islands; it is painted white and red, and can be seen about five miles off at sea. Water of good taste was procured from two or three streams near the town; we used the engine,—without one the operation would not have been so easy.

The 27th of September was a beautiful day. What a difference! The desolate shores of Stanley Harbour and its embryo town looked cheerful when under the influence of a cloudless sky and a gentle breeze. It is not to be wondered that the English in their changeable climate are talking so much about the weather. The pleasure of a fine day after the long continuance of fog, sleet, wind, and rain, is not appreciated by those who live under a brighter sun.

On the 30th of September we weighed and made sail out of Stanley Harbour; the wind was light, and as we cleared the narrow entrance, only three hundred yards wide, it hauled round to north-east, compelling us to beat out; a fog also got up. About noon we cleared the land. The Pandora was not in sight; we regained her however by means of a rocket, but on the 3rd of October we lost sight of her a second time, nor did we meet again until we arrived at Valparaiso, where she preceded us upwards of a fortnight.

On the 15th of October we were under storm-sails and close-reefed maintopsail. In the middle watch it was bitterly cold, unusually so,—ropes, deck, and bulwarks were coated with ice; this was accounted for at daylight by an iceberg being not far off. It was a fine object, about two miles in length and 150 or 200 feet high.

Heavy gales, squalls, cold drizzling rain, snow, hail, the main-deck stove in, the gangway boarding washed away, a low temperature, and a man falling overboard, was the summary of a month's battering off the Horn. On the 15th of October we were within thirty miles of Diego Ramirez, that group so singularly placed, that perhaps another fifty years may see it the site of a lighthouse. We tacked at sunset to avoid it. Towards midnight the wind hauled round again to the west-south-west, blowing strong with storms of hail and snow, but it moderated again on the 17th. This was probably the turning point or crisis of the voyage; had we stood to northward on the 15th of October, instead of tacking to avoid the Diego Ramirez, we should, in all probability, have made the same passage that the Pandora did, but against that advantage is to be placed the risk of getting on that group; the result with us was a detention for nearly a fortnight in this miserably inclement, blustering climate. The passage round Cape Horn, although stripped of its terrors by experience, the aid of chronometers, and the superior manner in which ships of the present day are found, is still an anxious and fatiguing voyage. The quick succession and violence of the gales make it remarkable. There does not appear to be the least objection to nearing the coast, particularly since the admirable surveys of Captains King and Fitzroy, although east of Cape Horn fifty or sixty miles is the closest approach that, on account of the diversity of the currents, ought to be made.

On the 3rd of November a westerly breeze sprang up, varying to the north-west, which, though rather adverse,

carried us out of the inclement regions of the south. In 44° south and 76° west we passed a whaler, trying out, as the phrase is, boiling her blubber down; as the wind was blowing fresh, and having never seen the operation at sea before, we did not at first know what to make of it. We passed two others on the following day engaged in the same manner. The Americans engross nearly all the whaling trade of the Pacific Ocean; for one English ship we met with ten American.

On the 9th of November we made the land, fifty miles south of Valdivia, Chile. The weather was now beautiful, and we enjoyed it the more from our tedious passage. Valdivia will at some future day be an important place; it is the only opening to a magnificent tract of country called Los Llanos, or the plains lying between Chiloe or the Gulf of Ancud and Bonifacio Head, extending from the steep hills which line the coast to the Andes. The principal rivers, forming what Captain Fitzroy calls the deceiving port of Valdivia, are the Calla Calla, on which the town stands, and the Cruces. The harbour, though in appearance extensive, is, from the accumulation of mud and sand, very limited in the accommodation it affords to vessels of any size. The adjacent country reminds one of the neighbourhood of Plymouth. We were near enough to observe fine herds of cattle; but the pathless forest, bounded on one side by the Andes, and on the other by the ocean, seemed barely traversed by man. Valdivia, perpetuating the name of the daring and avaricious Pedro de Valdivia, is, although called a city and the capital of a province, merely a village, embosomed in orchards. It was founded in 1551, a few

years before Valdivia fell in battle with the unconquerable Araucanians, whose deeds of valour in defence of their liberty are so well detailed by Ercilla in his 'Araucana.' There is something grand in the energy of the Spaniards of those days, brutal and misdirected as it was. Religion was not wanting to lend sanctity to the deeds of oppression and lawlessness; and it would seem as if their conduct was shown as an example of the extent to which human nature can deceive itself. The lust of gold and advancement was the real impulse of their heroic endurance, of their barbarous disregard of everything human; but in their minds it was doubtless glossed over by the desire of making converts, or the principle of persecution, which, calling itself zeal, sought to overthrow all that refused to entertain their belief or endure their yoke. The Araucanians still form the principal part of the population, and an amalgamation between them and the Creoles has been and is still going on. This is evident from the aspect of the present inhabitants; the lank hair and dark angular features are common among the Chilenos.

We approached within a mile and a half of the entrance of the harbour, and at one P.M. wore and stood out. The day was fine—the sun shining brightly, and the breeze being moderate; the signs of cultivation, the cleared land, cottages seen among the trees, and the grazing cattle, diffused cheerfulness and animation, and the pleasure we derived from it was no doubt greatly enhanced by our long absence from such scenes. The breeze from south-west and south-west-by-west fell light as we drew in shore; on standing out it freshened up gradually,

until we were going eleven knots—an unusual speed for the Herald. We stood to the westward to avoid Mocha, an island in 38° 19′ south, 73° 46′ west. Dangers extend from the south-west of this island, but the approach to it is indicated by soundings. It used to be inhabited by the Araucanians, but they were driven away by the Spaniards, for fear they should give assistance to foreigners. There the pirate Benavides captured an American and an English vessel in his extraordinary attempt to achieve power.

During the night we passed Mosquita Point, the site of the wreck of H.M.S. Challenger, on the 19th of May, 1835,—an unfortunate event, but so far creditable to the captain and ship's company, as proving their good qualities in patiently and perseveringly meeting the difficulties of their position. One cannot but compare the wreck of the Challenger with that of the Wager, in May, 1740. The advantages are certainly all on the side of the modern disaster, more particularly in the fact that the Wager was lost ten degrees further south, in a far more inclement climate, adding immeasurably to their distress. Still enough remains to show the commander's conduct as selfish and inhuman in no slight degree—discreditable to him as a man and as an officer, and that disorder and absence of discipline reigned among the crew so much as very greatly to increase their sufferings, and render all chance of relief hopeless. In the case of the Challenger the reverse took place; the captain was the first to show an example of self-denial and self-command, and hardly an instance of misconduct had to be proceeded against among the crew. These circumstances

should make us feel thankful that we live in better times, —that while a milder yet firmer discipline has extended itself throughout the naval service, the sentiment of responsibility renders it unlikely that human nature will be so severely tried, or, being so tried, will give way to the excesses that characterized the wreck of the Wager.

On November the 10th we stood in again for Concepcion Bay, just as we made the Paps of Biobio and the heights of Tumbez. In the afternoon light winds from south-south-west carried us to the northward, passing Port St. Vincent, an open bay, but affording better shelter from the northers, which in May, June, July, August, and September, render most of the open bays on the west coast more or less unsafe or disagreeable anchorages. During the month of June some of us had seen two or three American whalers lying here in preference to Talcahuano. During the night we hove-to off the bay, and at daylight ran in through the eastern passage between Quiriquina and the main. With Captain Fitzroy's chart, there is no danger in using the western passage, which, although narrower, is nearer Talcahuano. The breeze was light from the northward; with little more than steerage way we only reached the anchorage about noon.

The scenery in Concepcion Bay is very pleasing; the country is studded with orchards and pasture-land, with flocks and herds grazing in considerable quantities, with various farm-houses, and sheds for the poorer inhabitants. It is diversified with hill and dale, well wooded, and affords an agreeable contrast to Valparaiso. In the course of a week or ten days a voyager may on this coast see the extremes, from the most luxuriant bounty, for-

tilizing streams, and refreshing showers, to the aridity of the parched desert, where no green exists, and then change suddenly to the dense tropical forest. On the coast of Chile, however, the change is progressive; at Valdivia the luxuriance of nature is almost tropical: there is a difference at Concepcion; the foliage is neither so rich, nor so superabundant, still it is a well wooded, well watered country. But at Valparaiso the difference is great; the hills are almost bare, or clad with stunted shrubs and half-grown underwood; it is merely in the ravines and the valleys that what may be called verdure exists. At Coquimbo even this is diminished; the cactus only flourishes, and a poor wiry grass is perhaps found in the more sheltered spots. At Cobija there is the desert itself,—hill, valley, and plain, either covered with sand, or the barren naked rock scorching in the sun. The contrast between Valparaiso and Concepcion made us perhaps look at the latter with more favourable eyes than we otherwise should have done: it is however a fertile place, renowned on the station for its fresh beef, vegetables, and fruit, besides corn and coal, which are both, particularly the former, exported in considerable quantities to Mexico, Peru, and the Australian colonies.

On the 20th of September, 1835, the towns and villages round about Concepcion were overthrown by an earthquake; the loss of life was comparatively small, but the destruction of the habitations was complete. The earthquake, however terrible such visitations must ever be, does not appear to have been attended with such fearful consequences as that of Lisbon in 1755. The construction of the buildings being less solid, loss

of life is not so likely to occur; and the houses are more easily replaced. The adobes, or earth-bricks dried in the sun, are remade on the spot, and the timber is usually serviceable again. But an earthquake is not to be lightly thought of: all that man can conceive of stability trembles beneath him, and ruin and misery is the result.

Talcahuano appears to have risen from its ruins with more of order and regularity; the streets are broad and straight, and not unclean, but it is nothing beyond the merest sea-port, supported principally by a class of indifferent reputation, the crews of whaling-ships, who often render it an undesirable rendezvous. The road from Talcahuano to Concepcion leads through a valley, and may be said to be almost of nature's forming, being entirely dependent on the state of the soil; the dust in summer is perhaps worse than the mud in winter. At the time of our visit it was probably in its best condition, the rainy season being just over, and the sun not having had sufficient power to dry up all the moisture. The numerous brooks or watercourses had been rudely bridged over, indicating some traffic, and being particularly agreeable to pedestrians. The road was lined with huge posts, rendering two facts apparent,—that wood was abundant, and labour scarce. They were of the rudest construction, about ten inches square, with holes in them through which smaller pieces were thrust; altogether it was the most wasteful consumption of timber we had ever witnessed.

The soil is fertile in the extreme. Wheat, barley, Indian corn, and beans were seen in considerable quantities; grass seemed abundant and of good quality,

agreeing with what has been stated of the fertility and productiveness of the province. The city contains 5000 or 6000 inhabitants, and has a sad aspect. An English country town is generally considered a type of dulness and inanimate life; but the dullest is cheerfulness and animation itself compared to Concepcion. In the distance it reminds one of Ludlow; but on a nearer approach, it makes one think more of an immense brickfield. The plain or valley in which the city is placed is little higher than the level of the river; the soil is loose and alluvial, and the streets are generally unpaved. In Spanish cities the streets are usually at right angles; the houses, even those of the better class, are never more than one story high, and have generally a ground-floor only. This mode of building, although a wise precaution in countries afflicted with earthquakes, does not add to the appearance of the towns. The private houses were rebuilding, but in a very unpretending style; even the best aspire no higher than to solid plainness, while the greater part were little better than mud hovels. The ruins of the cathedral had been cleared away, and a few slight buildings were all that supplied its place. There being no bustle, no animation in the thoroughfares, Concepcion had more the aspect of an overgrown village than of the chief town of a province. Even the river, with its broad and naked stream, rather added to, than relieved, the melancholy quiet. Some delightfully luxuriant spots, cultivated as gardens, testified to the fertility of the soil in the very centre of the town. All kinds of vegetables, and raspberries, strawberries, gooseberries, and currants, were abundant; vineyards and orchards were also in the neighbourhood.

In fine, everything tended to show the mildness of the climate and the bountiful productions of the country. But the earthquakes diminish all these advantages, destroying the oldest associations, and making all present enjoyments insecure.

Desolate as Concepcion was, there was a coffee-house and a billiard-room just established under the favourite Spanish sign of the Bola de Oro. Wood appears much wanted in the neighbourhood of the city. The hills have a denuded, devastated aspect, which, notwithstanding the fertility, much detracts from the picturesqueness of the scenery. The coal abounding in this region is similar to the English cannel coal, but has not yet been worked to any extent. It is found within three or four feet of the surface, and is said to burn too quickly to be useful for the forge. It is also liable to spontaneous combustion. The mining districts of Copiapo, Guasco, and Coquimbo have taken advantage of the abundance of fuel by forming smelting establishments here, to which they send the ores fresh from the mines.

Old Concepcion, the ruins of which still exist at Penco, in the south-east corner of the bay, was overthrown in 1751. It was rather swallowed up by the sea than by the land; and it has been observed that Callao and Concepcion have both suffered more than Valparaiso and Coquimbo; the deeper bays of the former offering resistance to the sea, and so impelling the waves with force on the shores. The present site of Concepcion was not chosen until 1763. The town was seriously affected by the earthquakes of 1822 and 1823, which, however, did more damage to Valparaiso and Santiago.

In 1835, as already mentioned, it was again almost destroyed. Among the exports of Concepcion is the Choros, a kind of mussel, peculiar to the bay, and much valued by the *bons vivants* of Chile. The distance between Concepcion and Valparaiso is 250 miles, and as the southerly wind is usually constant the passage is commonly performed in a day and a half; but light breezes and calms often interfere and baffle ships, particularly on approaching Valparaiso.

On the 12th of November we sailed for Valparaiso. A lighthouse upon Point Curaomilla would be very useful in approaching that port, more so than on Point Valparaiso. The light should be revolving, to distinguish it from the fires frequently seen inland. Point Curaomilla is a bluff headland, with two hummocks at the extreme, the land heightening gradually, with white streaks among the red cliffs. As we neared the coast the scantiness of the vegetation became more apparent; trees were only seen in the valleys, and the sides of the hills were worn into numberless little gullies by the winter torrents, accounting for the white streaks we had previously observed. On opening Valparaiso Bay, the distant Andes broke upon our view,—the mountain of Quillota, and the towering core of the volcano of Aconcagua*. From the neighbouring hills they appear grander; their great distance is better perceived and comprehended by the eye; but a quarter of an hour before sunrise or sunset is perhaps the most advantageous

* By trigonometrical measurement, taking a base between Valparaiso and Pichidangue, Captain Kellett and Mr. Wood made the height of Aconcagua above the sea-level 23,004 feet; Captain Fitzroy 22,980.

time for viewing them,—the rugged outlines are then depicted against the sky, and the various shades and delicate tints are more clearly distinguished.

Valparaiso has much changed during the last fifteen years. The tower of a new church, el Matriz, the cupola of the Custom-house, and the steeples of the church of La Merced, contribute to give a more striking appearance to the place than it had heretofore. Its increase has been most remarkable. The Almendral was a suburb, rarely visited, but is at present the principal and the busiest part of the town; a new street, taken from the beach, the houses of which almost overhang the sea, now runs parallel to the old and only one of 1830, and is full of foreigners, taverns, and billiard-rooms. The old thoroughfare seems to have been left to its original inhabitants, the Calle del Plancharia being as quiet as ever, and as old-fashioned too in appearance. "'It was about one o'clock, the hour of the siesta," says one of the officers, "when I took a walk in that part. Every shop was closed, and not one busy face was to be seen; the whole town seemed, as in fact it was, asleep. The small houses creeping up into the sheltered sides of the Quebraba were in the same dreamy repose. Wandering up to the church of el Matriz, I found two other places of worship of much older date,—one belonging to the convent of San Domingo, the other to that of San Francisco. The precincts or cloisters of the latter presented the most pleasing spot I had seen in Valparaiso: it was humble indeed, but neat and clean. A covered walk extended all around, forming a shelter, and reminding me, in its quiet seclusion, of the cloisters of Magdalen College, Oxford. In the middle was a

cluster of trees, orange, lemon, and pomegranate. It seemed a refuge from the dirt and dust of the town, unexpected and unlooked for in the inconvenient and poor suburb."

The markets of Valparaiso are well supplied with fruit, vegetables, meat, poultry, milk, and eggs, and one is surprised that such is the case, when seeing the barren aspect of the hills, and observing, even when riding out upon the hills and plains beyond the town, the little cultivation that exists. But it is in the valleys and sheltered spots that fertility and cultivation are to be found; in a country such as Chile, shelter from the wind, and security from the rushing torrents, caused by the rains of winter, are absolutely necessary.

Captain Kellett and Mr. Wood went to Santiago, the capital of Chile*, while Mr. Edmonstone made excursions to Quillota and the neighbourhood. The accommodation afforded to the rich has been increased during late years, but the hovels of the poor are still the same as formerly,

* Captain Kellett took with him a barometer, an admirable instrument, which, on being compared with the standard one at the Cape of Good Hope, was not found to differ perceptibly from it, and we compared ours on board at corresponding times: the heights of the city and of the intermediate stations above the mean-tide level are as follows, and may be placed in juxtaposition with those of Captain King.

Observations of Captain Kellett.		Observations of Captain King.	
Santiago	1866 feet.	Santiago	1821 feet.
Curicavi	667 „	Curicavi	633 „
Cuesta Prado	2585 „	Cuesta Prado	2543 „ (Miers).
Cuesta Zapata	2008 „	Cuesta Zapata	1977 „
Casa Blanca	846 „	Casa Blanca	803 „
Valparaiso—mean-tide level.		Valparaiso—mean-tide level.	

being roughly constructed of wood, plastered over with a coating of mud, the bare ground forming the floor, windows being unglazed, and shutters excluding the daylight, but not the wind and rain. The hills near the sea are partially clad with scanty brushwood and still scantier herbage: after passing them, the eye perceives an extensive open country. The Espino (*Acacia Cavenia*, Hook. et Arn.) abounds on these plains, and would, if attended with care, be of vast service in reclaiming the waste, by attracting moisture and affording a supply of fuel. It has been of the greatest use to the miners, and also for household purposes. Notwithstanding its being cut in the most injudicious manner, it still grows again; but of late this unwise system has been pursued to such an extent, that it has in many places destroyed the growth altogether. The utility and importance of such a wood as the Espino, in a country where much fuel is required, where there is hardly any other moisture than that produced by artificial irrigation, and where land carriage must continue for many years both expensive and laborious, and the widespread distress that must accrue from the injudicious neglect of the bounties of nature, will be apparent to the most casual observer. There is no doubt that the aridity of the plain has been perpetuated and increased by neglecting common precautions with regard to this shrub. The Espino is brought into Valparaiso in a slightly charred condition; it is very hard, gives much heat, and its ashes are sufficiently alkaline for the manufacture of soap. The stoves and warming-pans over which the Chilian ladies are very fond of putting their feet during the cold weather, are supplied by the small

bundles of charred Espino so often seen for sale in Valparaiso.

Numerous trains of mules were proceeding to and from the capital, reminding one of the pack-horses of England, before canals were begun or railways thought of. Indeed, in many places any other mode of transit, if not altogether impracticable, would be attended with great difficulty and expense. The coaches at Valparaiso often drive four horses, harnessed in a peculiar manner—three abreast and one in front, an awkward contrivance, with perhaps one advantage, that of putting the strength of three horses more immediately to the carriage, and having one in front as a leader to encourage the others. The coaches are clumsy, ill-looking vehicles; they travel fast, and, as might be expected, both from their construction and the roads they have to pass over, jolt tremendously.

CHAPTER III.

Papudo Bay—Departure for Peru—Callao—Road to the capital—Lima—Arrival of H.M.St.S. Cormorant—Leaving Callao—The Lobos Islands—Payta—Santa Clara.

On the 4th of December, all our refit being completed, we sailed from Valparaiso with a fair southerly breeze, and on the same day anchored in Papudo Bay, or more properly La Ligua, a small port, which has only lately been opened to commerce from the existence of copper mines in its vicinity. Although only thirty-one miles from Valparaiso, there is a difference in the vegetation. Slight signs inform the traveller that he is approaching that vast desert which forms so remarkable a feature in South America;—not that the country is altogether sterile here, for sheep, oxen, and horses find pasturage without much care from man; yet there is less verdure even than at Valparaiso; at Coquimbo there is still less; until at Copiapo and Guasco the desert itself is present. There is something desolate and sad in these barren regions, particularly to those who regard wood as the great ornament, almost the essential, of scenery; but there is a grandeur in these lofty mountains that has its effect

upon the mind, and for a time one forgets the want of vegetation, and thinks of the treasures the earth affords, not on the surface, but beneath. The copper mines of Chile are daily becoming of more importance, and as skill advances among the miners, they will probably be equal to any in the world. The copper ore contains more gold than that of other countries; the workmen, however, are deficient in foresight and regular industry, and much given to gambling and drinking, preventing in a great measure the advantages which might otherwise be derived from this branch of industry. Land travelling in Chile being difficult, the opening of these small ports affords great facilities for shipping the produce of the mines; every port that is opened must be an advantage to trade. A vessel might take in coal at Concepcion, and exchange it at the intermediate ports for the smelted ore. This traffic will no doubt be established; its advantages are so obvious that a settled government and an advancing population are the only elements required.

Captain Kellett came to Papudo in order to obtain a sight of Aconcagua; but, although he several times ascended Gobernador, a hill 1200 feet above the sea, the haziness of the weather prevented him from accomplishing his object. Snipe, plover, and teal rewarded the exertions of our sportsmen; the Pandora got a few fish, principally mullet, perch, and a sort of mackerel. By equal altitudes of the sun, and ten excellent watches, the longitude of Papudo was proved to be 71° 30′ 45″ west; and by a great number of circum-meridional altitudes of sun and stars, the latitude 32° 30′ 9″ south.

On the 7th of December, we sailed for Callao. Our passage was a delightful one. Although the Pacific Ocean may not always merit its name, yet it was aptly bestowed by the crews of Magellan, harassed as they had been by the miseries of their terrible voyage. We at all events had reason to acquiesce in the justness of the appellation. Since leaving Valdivia, the wind was invariably fair; freshening up and dying away, sometimes we went seven or eight knots, at others only two or three; the yards were always square, and little trimming was requisite. Although it was the middle of summer, yet the weather was not hot, the well-known Peruvian mist shrouded the sun, and at times it was even chilly*.

On the 17th, with the weather more than usually hazy, we made the coast of Peru, but were unable to distinguish anything until the sun dispersed the mist a little, and the rugged cliffs of Lorenzo, Fronton, and Horadada were seen. The breeze, which had been fresh in the early part of the morning, died away at noon, and we felt some

* On the 13th of December, in 19° 10′ south, 77° 17′ west, we tried for soundings, with 500 fathoms, and found the temperature at

500 fathoms	.....	46° Fahrenheit.
400 „	.....	46° „
300 „	.....	52° „
200 „	.....	51° „
100 „	.....	55° „
50 „	.....	60° „
30 „	.....	63° „
20 „	.....	65° „
10 „	.....	66° „
At the surface	.....	68° „

Temperature of the air 65°; height of barometer 30·05 inches.

doubt about getting in, when about one P.M. it freshened up and we passed within a mile of the north-west point of San Lorenzo island. Coming in this direction, the city of Lima makes a fine appearance, the towers, domes, and spires of the numerous churches and convents stand out in bold relief from a dark background of mountainous scenery, giving rise to anticipations of more grandeur and magnificence than is realized on a closer examination. But how few things will bear the test of near inspection! This is truly the case with Lima. Its situation on a gradual rise from the sea is so much in its favour, that not to disappoint would bring it into the class of perfectibility which exists only in the imagination.

Callao, the seaport of Lima, has been called the most commodious in the Pacific Ocean, and although not much of a harbour, it may, considering the nature of the climate, be so called with justice. In former times the town was more important than at present, and even styled a city. At the terrible earthquake which overthrew it in 1746, three thousand persons perished. The site was to the southward of the present town, and was partially overwhelmed by the waves; indeed, for several years after the catastrophe sentries were stationed on the beach to guard any treasure that might be thrown on the shore, a circumstance not unfrequently occurring. This might well have been the case if what old historians relate is correct, that in 1746, Callao contained no less than four monasteries, besides churches, and a palace for the Viceroy, who it appears came down to superintend the arrival and departure of the galleons from Acapulco and Chile.

Callao is now a miserable place, a dirty straggling sea-port, with indifferent inns, and billiard-rooms, and numerous pulperías or grog-shops. The mole is certainly a creditable construction, and forms a convenient landing-place for merchandize. A curious instance of the mildness of the climate is seen in enormous quantities of wheat piled upon the wharf without any shelter, but when the mist is somewhat heavier than usual, a few sacks or slight canvas covering is thrown over the upper part. Some of the houseless wanderers, who in all countries exist from hand to mouth, as the expressive saying is, creep into a sack and then get some of their comrades to cover them over with the grain, thus making bed, covering, and food all in one. In December, with the new moon a periodical swell is expected, which sometimes washes over the mole. Watering is easy and expeditious, pipes having been laid down to the sea. Tanks, those luxurious articles, with which first lieutenants and boats' crews are in our happy days of improvement doubly blessed, will no doubt soon be introduced, thereby conferring a special favour on the Admiralty by helping to diminish the Navy Estimates, in the decreased wear and tear of the stores of Her Majesty's ships and vessels of war. However, we should not be selfish. Boats' crews and midshipmen, first lieutenants and Admiralties may benefit, but—let rival interests be remembered—the introduction of tanks may seriously tend to injure the trade of the ginshops.

On the 19th of December a party was sent to ascertain, by levelling, the height of Lima above the sea. "This employment," says the journal of one of the surveyors, "caused us to pay a rather minute attention to the road,

which is dusty in the extreme, and in as ill-conditioned a state as can be imagined, owing to the neglect of the present inhabitants, for the carriage road having been finished with a parapet of brick on each side, it would have taken very little trouble to have kept it in repair. On the right-hand side are the remains of an Indian village, dating before the conquest, and the village of Bella Vista, a more agreeable place than Callao, which, however, is not very high praise. It contains a hospital under the superintendence of Mr. Patrick Gallagher, who had been an assistant surgeon in the navy. The building was in progress, and promised to afford considerable accommodation to the sick. It is intended to receive seamen of the merchant service as well as of the Royal Navy, and is not a government establishment exactly, although under government control. The land on both sides of the highway is unproductive, through the want of water; for if irrigation is neglected, the country becomes a desert, but if attended to, the result is extraordinary, and a land of running brooks is not more fertile, or can show better crops or brighter foliage.

"Troops of mules, laden and unladen, passed on the road; these poor beasts are treated in a brutal manner by their drivers. There is a custom here, which seems cruel, but which it appears is well intended, as tending to promote freer respiration: the nostrils of these animals are slit up or opened towards the eye. One would imagine such a practice would not be adopted without having experienced the benefit of it, although from the specimens one sees of humanity in this part of the world, nothing could excite surprise in the way of outraging it.

"Clattering omnibuses with six horses went to and from Lima every two hours, raising such clouds of dust that it gave a fair idea of the Simoom. We arrived at what used to be called the half-way house; affording refreshment to man and horse, to the scandal of the adjoining church. In times gone by, it is said the pulperia, offering good brandy, was more frequented than the place of worship, but on the day of our visit it was deserted, and the church, in a dilapidated condition, seemed likely to disappear also. On approaching the city, the prospect improves; irrigation has been attended to, and for the last two miles an avenue of willows adorns the road; Indian corn, lucerne, oranges, lemons, pomegranates, and bananas flourish with the utmost luxuriance. This beautiful approach is at intervals further ornamented by circuses, lined with stone seats, affording room for carriages to turn, and was the work of the Viceroy, the Marquis of Osorno, well known by his kind and generous conduct to Vancouver. He was then called Don Ambrosio O'Higgins. Unfortunately he died in the third year of his viceroyalty, which prevented the completion of the avenue to Callao. Had his design been carried out, how different would be the journey between the port and the capital! The neglect of the people has in some measure destroyed the benefit arising from the place. In one part a filthy slaughterhouse attracted such numbers of flies and insects, that they proved a perfect plague. In another a horse had been left dead, and the troops of dogs rushing was a sight in itself. The energy of wild animals was never more naturally shown than in these tame ones, bounding, rushing, yelping, howling,

towards the prey. Yet the plantations and gardens, the avenue, the seats and circular spaces, the mountains on either side, the city gates before, and the shipping and road of Callao with the bold outline of San Lorenzo in the background, form as fine an approach to a city as can be imagined.

"We did not arrive at the gates of the city until near sunset, having ascertained the height of Lima to be 453 feet above the level of the sea at Callao. Others have called it 511 feet, the difference arising, perhaps, from the latter being taken up to the cathedral, which is on a gradual rise from the gate.

"The gateway is a triple arch of good proportions, but, like the wall itself, mouldering and decaying. The guardhouse, like our ideas of Lima, referred to better days, is large and lofty, but apparently little used. The gate-keeper received us with civility, asking us in, and making eager inquiries whether our labours tended to the formation of a railway, which has been much spoken of, and is now (1852) actually in progress. We were stopped more than once on the road to answer the same question. This entrance to Lima disappoints expectation; the street is all but in ruins, not one house in ten appearing inhabited.

"Lima is surrounded by a rampart or wall, formed of the adobes*, about twenty or twenty-five feet high, and

* Jarvis, in his 'Scenes and Scenery in the Sandwich Islands,' makes the following remark on adobes:—"These bricks no doubt are of precisely the same make and pattern as those required of the children of Israel by their Egyptian task-masters. Indeed, the resemblance between a group of Hawaiians making the bricks, and the implements employed by them, are strikingly similar to a hieroglyphi-

about nine feet in breadth at the Cordon, so that, though not adapted to resist modern warfare, it would afford considerable resistance to any popular outbreak. It was built to guard against the incursions of the Indians, about the year 1686, during the viceroyalty of the Duke of Palata. The entry of that Viceroy into Lima is distinguished in history, by the two streets he passed through, from the Callao gate to the palace, having been paved with silver. This for Peru was no great matter, proving the old proverb, 'too much of one thing is good for nothing.' The silver was probably not the least injured by being so exposed, the ingots having been cast in masses twelve or fifteen inches long, four or five broad, and three or four in thickness; the principal, indeed the only expense, was in laying them down and taking them up again. The value of the metal was estimated at eighty millions of crowns, or about sixteen millions sterling.

"It was now quite dark, and we plodded on through dreary streets, passing gloomy convents, and more by good luck than management avoiding two or three open drains, of villanous aspect and worse perfume. However, we were cheered up again by the sight of fine gateways opening into clean airy courts, the walls painted in fresco or adorned with flower-pots and creepers on trellis-work. The houses of the richer class are built more or less in this way, the view of which compensates in some measure for the blank walls facing the streets. We

cal painting some 4000 years old. . . . *Adaub* was the Egyptian word for this kind of brick, and it is still used by the Copts, etc. Doubtless the Saracens derived it from the Egyptians, and carried it into Spain; thence it went to America, and from America to the Hawaiian Islands; continuing westward, it may arrive at the land of its birth."

passed half-a-dozen squares, or *quadras* as they are termed, the Spaniards having a fashion of building their cities at right angles, and generally, if the ground permits, at equal distances. The plan, if not followed with too much uniformity, is a good one; Lima, built by authority, and rising quickly, is square upon square 108 yards each way. Its monotony is certainly not pleasing; the same objection may be made to the new town of Edinburgh.

"The streets, ill lighted and worse paved, were at last passed, and we turned into the Calle del Commercio, gay and cheerful, well lit up, and making a splendid appearance with its numerous shops, rich with the manufactures of France, Germany, and England; there we were glad to find an inn. Having taken some refreshment, we started for Callao. In one of the darkest and most gloomy of the streets we chanced to meet 'the Host,' on the way to the house of some dying person. The carriage in which the consecrated bread was conveyed gave warning of its approach by the tinkling bell. The attendant priest chanting the '*miserere*,' the kneeling figures at every door, the uncovered and respectful passengers in the street, the light displayed at every window, rendered the whole an interesting sight.

"The road to Callao seemed deserted. We had heard that robbers were prevalent, and every now and then a shrill whistle in the distance, answered in another direction, appeared as if parties were abroad. But we did not see anybody, and our party, three in number, armed with a theodolite and legs, a boat-hook staff and measuring-rod, made a formidable appearance, and would,

no doubt, have repulsed double the number furnished with less scientific weapons."

On the 22nd of December, H.M.St.S. Cormorant arrived from Panama and Payta, where she had been for the mail, bringing intelligence from England to the middle of October. Steam communication is now exerting its influence on this coast. Valparaiso, and the intermediate ports of Chile, Bolivia, and Peru, have monthly communication with Callao, Panama, Buenaventura, Guayaquil, and Payta; and the calms and light baffling winds which form such a bar to the intercourse with the ports of Mexico and the more distant regions of Upper California and the Oregon territory, are now little thought of.

On the 24th we sailed from Callao in company with the Pandora. The trade-wind carried us smoothly along, and on the 27th we sighted Lobos de la Mar, or de a Fuera in Captain Fitzroy's chart, an island about ten miles in circumference and forty-five miles from the mainland. This place is famous in the buccaneering annals. Woodes Rogers says, "The inhabitants have neither wood, water, nor any vegetable; the soil is a white clay mixed with sand and rocks, and several veins of slate; here is, however, good riding for ships in about twenty fathoms water. Penguins, pelicans, boobies, and a kind of fowl like teal, that burrow in the ground, and seal abound." The good anchorage he mentions would appear to refer rather to Lobos de Tierra, thirty miles N. by W.$\frac{1}{2}$W. of Lobos de a Fuera, and only ten miles from the mainland.

On the 28th we made the Silla de Payta, a remark-

able range of hills, 1300 feet high, and of much darker colour than the lower cliffs. We had now nearly reached the extremity of the great desert which, with little intermission, extends 1300 miles, from Coquimbo in Chile, to within a few miles of Parina Point, near Payta. The sudden change from the extreme aridity of this barren tract, to the dense foliage of the forests of Guayaquil, is striking. On a smaller scale the same phenomenon may be witnessed at every port on the coast, where a little rill descending from the Andes produces on each side a belt of verdure, which disappears as soon as the influence of the stream is overcome by the mighty desert. In the afternoon another Lobos, or Seal island, was in sight, making like a part of the mainland. On drawing to the northward with the fresh southerly wind, the channel between it and the continent became distinct. The cliffs are very white, and resemble a ship under sail. The extreme regularity of the shore is extraordinary; the ramparts of a line of fortification could hardly be more exact or formal in their outline. Having hauled round Payta Point we anchored. Several American whalers, a Peruvian schooner of war of one hundred tons, and a few small coasters were lying in the bay. We were informed at Callao that at this time of year, on the change of moon, a heavy swell is generally experienced. It was new moon on the 28th, and on the 29th of December the Captain's gig was swamped in landing, and the Pandora's very nearly so. This swell is said to be common on the coast. Payta is chiefly visited by the whaleships, but it is also a port of some note in supplying the interior; Lima, even when Callao was blockaded by the

Chileno squadron under Lord Cochrane, and again in 1835, received everything from foreign countries by way of Payta.

On the 29th of December we sailed from Payta, and on the 31st anchored in the Gulf of Guayaquil. We were looking out for the lighthouse on the island of Santa Clara, or, as more commonly called, Amortajado, but were unable to see it, for a good reason, because it was not lighted, and being unacquainted with the set of the currents we were compelled to anchor. Amortajado lies about midway between Tumbez and Puna, about four leagues from either shore. It is a small rocky island, of little service, except as a station for a lighthouse at the entrance of the river Guayaquil. Since 1831 one has been erected, but the superintendent told us that it was indifferently supplied with oil, and could not be kept always alight. The surf is heavy, particularly at high water, when some difficulty is experienced in landing. The island should not be approached too closely, especially on the east and south-east side, where detached rocks with deep water between are lying two and three miles from the shore. At our anchorage we felt the strength of the river Guayaquil, the ebb setting south-south-west, and the flood east, about one knot or a knot and a half an hour. It was at Tumbez, about twelve miles south-east of this island, that Pizarro first stepped on the soil of Peru. He landed on Santa Clara, which was then uninhabited, and only occasionally visited by the warlike people of Puna, for purposes of sacrifice and worship

CHAPTER IV.

The Galapagos Islands — Charles Island — James Island — Chatham Island — Coast of Ecuador — Bay of Atacamas — Ramble in the Forest—Mr. T. Edmonston—His Death and a sketch of his Life—River Esmeraldas—Gallo Island.

On the 1st of January, 1846, we departed for the Galapagos Islands, and, carried along by the trade-wind, made on the 6th at daylight Gardiner's Island, and at noon the south end of Charles Island. Standing to the northward, along the south-west shore, the wind fell light, accompanied with haze. We therefore shaped our course for the night. On the following day we sailed along the west side of Charles Island, with light winds and drizzling rain. The land was gloomy in the extreme. Black lava cliffs bounded the shore, and wherever a glimpse of the interior was caught, tangled underwood and prickly pear were seen. We passed Blackbeach Bay, which offers good anchorage, and the path leading to the settlement is pointed out by a boat-shed in a small sandy bay. A remarkable hill, which the look-out men reported as Saddle Hill, lies about five miles to the southward of this bay,

and is an excellent land-mark. A rock making like a sail clears up any doubt one might have as to the place. Rounding the west extremity of Post-office Bay, a heavy surf breaks on the eastern point, which is still further marked by a small island covered with cactuses, almost reminding one of the Gunner's Quoin off the north-east end of Mauritius.

The wet season extends here from November to March, but it is said not to be so continuous as on the main-land. Heavy rain continued until January 8th, when a fresh southerly breeze cleared the mist and gave us sunshine once more. At noon we came to an anchor in Post-office Bay, Charles Island. A party pulled round to Blackbeach Bay, to visit the settlement, about four miles from the anchorage in Post-office Bay, which received its name from a custom among the whale-ships of leaving a box with letters in one of the clefts of the rock.

The landing in Blackbeach Bay is easy. On looking about we discovered a path, which we followed. The thickets on each side were so tangled, the cacti so large, and armed with prickles three or four inches in length, that attempting to proceed without first clearing a path would have been impossible, and the labour would have been out of the question for a party like ours without machetes or hatchets. Large locusts were seen in extraordinary numbers. The naturalist, the late Mr. Edmonston, obtained some very fine specimens. As we got inland the country improved; the trees became larger, the soil less rocky, or, to describe it more exactly, the masses of lava became pulverized. After a walk of

less than an hour, the crowing of cocks, the braying of donkeys, and the barking of dogs, announced our approach to the abode of man. A few ruined hovels stood round a level green spot. The houses were small, formed of straight poles placed close together with thatched roofs, but devoid of cleanliness, so easily attained in such a place, a sloping declivity with a brook at the bottom offering every convenience for the comforts and decencies of life. We were soon offered fowls, wood, and potatoes for sale, which however were then not our object. Inquiring for the Governor, we were conducted to a larger house, but more dirty and in worse repair even than the rest, where we found three or four good-looking women, swinging in their hammocks, and not at all interrupted by our entrance, and a Señor Alcé, styling himself temporary governor, and acting for Don Jose Villamil, the person mentioned by Captain Fitzroy as the proprietor of the greater part of the stock then (1835) upon the island. An Englishman named Gurney, who had married a sister of Señor Alcé, gave us a variety of information. Captain Fitzroy mentions a penal settlement having been in 1832 established in the island by the Republic of Ecuador. It was chiefly intended for political offenders. About a year before our visit a revolution took place, and the greater number of the exiles were recalled by the party who attained power. There never appears to have been much control exercised over these delinquents, for the most sufficient of all reasons, because the governor had no power to enforce any. At the time of our visit the exiles were certainly not those from whom a government could feel

much fear, consisting of an incorrigible drunkard, an unfortunate mad woman, and a murderer; they were all at large.

The cattle had increased wonderfully, and were estimated at 2000 head, besides wild pigs, goats, and dogs. The cattle are hunted down with dogs, and we were offered any quantity we required, on giving previous notice. The wild dogs keep the goats and pigs down very much. At Juan Fernandez it is stated they have extirpated them, and the same result will take place in this island unless means are adopted to reduce the number of the dogs. There were only two or three tame cows; the difficulty of taming the wild cattle is so great as to be almost impracticable. The people are accustomed to send them to Chatham Island, where an establishment to supply whalers with refreshments is forming. Water is abundant here; at present however no pains are taken to render it available for shipping; this might be done by laying pipes down from the wells to a reservoir formed in Blackbeach Bay. As it is, the gullies and little valleys in Post-office Bay are, in the rainy season, torrents; so that if encouragement were offered by a sufficient demand, a supply might be obtained from this source alone.

We continued our walk to the plantations on the side of a conical hill further inland, or to the eastward of the Puebla, and soon got sight of Post-office Bay, where the Herald and Pandora were riding at anchor. The bay appears equally near with Blackbeach Bay, and the anchorage is more protected. When the settlement was established, the labour of forming the road to Post-office

Bay would not have been greater than to Blackbeach Bay; landing, however, as far as our experience goes, is easier in the latter than in the former. The plantations are in the valley and on the side of the conical mountain, which is plainly seen from Post-office Bay, and serves to point out the settlement from the west side of the island. The fertility of this vale seems unbounded. For a mile we walked through enclosures in which Indian corn, melons, bananas, pumpkins, sugar-cane, and limes were growing most luxuriantly. The largest tree we saw was the Palo santo, which, on being scored, exudes a gum found useful in healing sores and wounds; it grows as large as a pear-tree, but resembles an ash in appearance. There is another and smaller tree, the gum of which is employed for similar purposes. The Palm Cactus (*Opuntia Galapageia*, Hensl.) is remarkable, resembling the cactus engrafted upon the palm, with large oval compressed articulations springing from a cylindrical stem.

After rain the atmosphere was so clear that Indefatigable, or Porter's Isle as the Americans call it, Albemarle, and Barringtons, though they were at least forty or fifty miles distant, could all be defined. The peaks of Albemarle Island are 3700 feet high. The absence of the palm, that attribute of tropical scenery, is remarkable. The palm is a never-failing indication of water, and often of the abode of man; but notwithstanding its absence, we found the island more fertile and wooded than, from Darwin's description, we were led to expect. Since Dampier's visit the progress appears to have been great. We cannot doubt the

truth of that navigator's description, and were agreeably surprised at all we saw. No turpin, or terrapin, are living on this island; but turtle are abundant. Seals frequent the coast in considerable quantities; ten or twelve were shot during our stay, but none of the fur kind. The Pandora got a haul of fish with the seine that few had seen equalled.

On the 11th of January we made sail, standing east-north-east round the north point of Charles Island; the current was strong against us, and with a two-knot breeze we could hardly stem it. At ten A.M. we observed M'Gowan's reef—the water breaking upon it, but not heavily. The position of this reef is 1° 8′ 45″ south and 89° 50′ west, lying midway between Charles and Chatham Islands. The similarity of these islands is great,—a tame rounded outline, with peaks or extinct craters throughout; the more minute features often reminding one of Etna and the environs of Catania. At three P.M. Dalrymple and Kicker rocks were in sight. The first is sixty-five feet high, and resembles a ship under sail—if that favourite comparison of navigators may be used once more; —its summit is covered with masses looking like ill-made chimney-pots—one of the freaks every now and then occurring, as if to remind one how much beauty and symmetry there is in nature; so much indeed that until the contrary is seen we pass it by unheeded. The Kicker is still more remarkable.

A schooner was seen in Wreck Bay, Chatham Isle. At first it was reported as a flag flying among the trees; then a vessel lying inside a bar harbour, with a heavy surf breaking right across; but as we drew to the north-

east, and the bay opened more clearly, we were able to distinguish the schooner, under Ecuador colours, lying at anchor off a small village close to the beach, with little or no surf at the landing-place. We ran past, however, and came to an anchor in an open bay on the north side of Chatham Island.

On the 12th of January we landed on a sandy beach to take sights for time. The surf was inconvenient, and in the afternoon increased so much that we experienced some difficulty in getting off. The rollers were heavy off the extreme point of St. Stephen's Bay, as much as eight or ten feet high. This would appear to resemble the rollers at St. Helena and Ascension, occurring without apparent cause; for there was, and had been, little wind, and it was besides the lee side of the island. Captain Kellett went round in the Pandora to Freshwater Bay, where the Beagle watered in 1835. He landed without much inconvenience, there being little surf, notwithstanding its being the weather side of the island. Ships well provided with anchors and cables may lie there and water without difficulty or danger; but we were told that at Charles Island a whale-ship, rather than anchor, had purchased water from the settlement, and carried it to the beach on donkeys.

On the 13th we went to examine St. Stephen's Bay, but found landing impossible, on account of the surf. There is deep water and good anchorage, ten and twelve fathoms, within half a mile of the shore; but according to Captain Fitzroy it is subject to calms and baffling winds. During the few hours we were in it, we found this peculiarly the case. The Kicker off this bay is one of the

most extraordinary rocks in the world, and might have been called the Sea-horse, having much the appearance of that animal when lying down with head erect and fore feet a little advanced. It is 400 feet high, and in two distinct parts. A jolly boat could be pulled through if the water was tolerably smooth. It has one or two arches in the larger part, through which the sea rushes with violence. We could get no bottom with fifty fathoms all round it. Finger Point has a heavy surf beating upon it. Captain Fitzroy gives its height as 516 feet: it is almost as remarkable as La Pouce at the Mauritius. St. Stephen's Bay, though it looks well upon the chart, would appear to offer no inducement to a ship, as far as landing goes. The bay we anchored in is better, and that was bad enough; our boats were half-swamped more than once. Wreck Bay, where the settlement, a few poor huts, is formed, is a good snug anchorage, with easy landing. The purser procured wood cheap, but not good. There, for the first time, we saw the terrapin, or galapago, those animals which have given their name to the group. We bought them at the rate of six shillings a-piece; they were two feet two inches in length, one foot ten inches broad, standing one foot two inches off the ground.

On the 14th we sailed for James Island, standing to the north-west. The nights had been beautiful for the last week. The stars were seldom more brilliant. Jupiter shed new lustre upon Aries; Venus and Mars seemed to light up Aquarius and Pisces; Orion, Sirius, Procyon, shining unrivalled; Auriga, Aldebaran, and Gemini were seen on the northern meridian, η in Argo Navis on the

southern,—a glorious galaxy, helping to pass away an hour of the tedious night-watches. On the 15th, at daylight, we were off James Island, but to leeward of the north-west point, round which we had to go. The wind baffled us for a few hours, but afterwards came fresh from south-south-east, and at eleven A.M. we anchored in James's Bay, on the west side of the island. The Guayaquilenians call Charles Island Floriana; the Spaniards used to term it Santa Maria del Aguada. These islands were named after the chief people in England, when buccaneering was at its height. Charles and James after the royal brothers, Albemarle after Monk, and Narborough after the admiral. James Island appears covered with larger timber than either of the others we visited, and seas of lava, cliffs, pinnacles, and craters are more numerous. The sportsmen shot a few teal, snipe, curlew, and hawks.

It rained heavily during the night, but cleared up in the morning. Sights for latitude and time were obtained; giving lat. 0° 12′ 20″ north, long. 90° 55′ 30″ west. The place of observation was a sandy beach to the left of the sea of lava. Dampier was at these islands in June, when rain never falls,—we in the middle of the rainy season; which probably accounts for his depreciating account of the group. It is not likely either that he ever went so far inland as the present settlers have done.

On the 16th of January we departed from the Galapagos Islands, and stood across for the mainland—a trip often made by the enterprising buccaneers*.

* On the 20th of January, at 9h. 40m. to 10h. 30m. A.M., in lat.

On the 22nd we were off Cape San Francisco, standing round Galera Point. "The country inland," says Dampier, "is high and mountainous, and appears to be woody; by the sea it is full of small points, making as many little sandy bays between them. It is of indifferent height, covered with trees, so that sailing by this coast you see nothing but a vast grove or wood, which is so much the more pleasant because the trees are of several forms, both in respect of their growth and colour." Reading this account with the coast within three or four miles, one cannot do more than repeat it, and acknowledge its fidelity and truth. Point Galera is low and shelving; Cape San Francisco steep and well wooded, the cliffs in many parts are white, somewhat resembling those of Sussex and Kent.

About 2 P.M. we anchored off the river Sua in the bay of Atacamas. Very good anchorage is found in this bay, and as it seldom or never blows, vessels can anchor almost anywhere; but off Sua especially, the water is not deep, 0° 18′ south and long. 83° west, we sounded with 500 fathoms of line, and found the temperature as follows:—

Surface	.....	76°
10 fathoms	.....	75
20 „	.....	70
30 „	.....	67
40 „	.....	67
50 „	.....	65·5
100 „	.....	62·5
200 „	.....	54
300 „	.....	51
400 „	.....	48
500 „	.....	47

On the 21st of January, in lat. 0° 15′ north and 81° 30′ west, we tried for soundings with 700 fathoms, but got no bottom.

and the holding-ground good, besides having the advantage of a village within a mile or two, whence supplies can be procured*.

"On the 24th a party was going wooding, and several of us," says one of the journals, "took advantage of the boat to get on shore. A pull of about two miles brought us to the mouth of the river, which empties itself into a beautiful little bay. The right-hand side of the bay is formed of high white cliffs, which are crowned with trees, and terminated in one, isolated by a sandy isthmus, called Sua Head. The left side is a sandy beach, interspersed with rocky points, by which, at ebb tide, Atacamas might be reached. On landing, we separated into two parties,—the one intending to reach Atacamas by the beach, the other by the forest. The party to which I belonged struck into a path said to lead to the village. The excursion being my first in a tropical forest, I was both pleased and surprised: a perfume pervaded the air; a continued buzz was kept up by the insects; beautiful birds and butterflies were seen in every direction. A walk of about two miles brought us to a house built upon piles, raised ten or twelve feet from the ground, and thatched with palm-leaves. The inhabitants were civil, and gave us some pine-apples,—a great treat after the walk.

"After leaving the house, and walking about five miles without reaching the village, all became conscious that

* Marks of the anchorage:—Sua Point just clear of Aguada Head; the latter should not shut in the former, as from the shallowness of the water the swell is often inconvenient. In six fathoms. Mouth of Sua River, south angle from Aguada Head, 40°. Extremes of land, west-south-west and north-east-by-east. Off shore two miles and a half.

we had lost our way. Hearing the barking of dogs, we proceeded towards the direction whence the sounds came. The path brought us to a thicket, but to no inhabited place; and after trying several others with no better success, we determined to return. But lo! the original path was lost; we were bewildered. Here one of the party, requiring a stimulant, found that he had lost his pocket-flask,—a vessel which always accompanied him on his excursions.

"At last the rush of the river was heard; and knowing that by keeping along the banks we should reach the beach, we contrived, not without a good scratching from the underwood, to get to the river. We found a small house, and, as the owner was absent, amused ourselves by examining his household goods,—his calabashes, trunks, bows and arrows. We also fell into a path which led to the first building passed, and, though disappointed at not finding the village, we were glad to find our way. Having rested, and filled our pockets with limes, we made towards the beach, and were joined by Mr. T. Edmonston, the naturalist, who had been botanizing.

"At the sea-shore we met the first party, who, though having reached Atacamas, were half-drowned on their way. One of them had been in a dangerous situation, from which he was only rescued with the loss of his shoes, jacket, and cap; and to finish all, on arriving at the village he had his gun stolen. Returning by the wood, a stream was met with. An ardent conchologist belonging to the party had collected in a handkerchief a few shells. Crossing the river with it in his mouth, his foot

struck against a hard substance. He took it to be an alligator, though some evil-disposed people declared it to be merely a sunken log. Be this as it may, the thing so frightened him that he opened his mouth and lost the collection. In fine, there was hardly one that did not meet with some misfortune. This of course afforded a great deal of amusement, the one laughing at the others' expense. But the comedy was over, a tragedy was about to begin.

"It was getting late; we were tired and heartily glad to go on board. The surf ran high, but being pretty damp it did not give us any concern. Several were already in the boat, and I was getting in; with the naturalist close behind me, when the leg of my trowsers lifted the cock of a rifle. The piece went off, sending its charge through the arm of Mr. Whiffin, and making a perfect furrow through the skull of the unfortunate Edmonston. He uttered a slight exclamation, and fell into the water. A man immediately raised him to the surface, but life was gone. So suddenly had the accident taken place, that nobody in the boat knew what had happened, Mr. Whiffin not even being aware of his wound. When the melancholy news became known on shore, every one, by tacit consent, discharged his gun, and each report operated upon me like an electric shock; I almost fancied I beheld another death.

"The boat sent for wood was also in a perilous position. Being heavily laden, the rollers seemed to threaten her destruction as she passed the bar. The captain, in his gig, kept close to her, and every one felt relieved on seeing her safe in deep water. The night was in

keeping with the day; it rained only as it does in tropical countries, accompanied by thunder, lightning, and heavy gusts, alternating with dreadful calms. The next day we buried the body of our unfortunate shipmate. His remains were laid on a beautiful bank leading to the sandy isthmus of which I have spoken. His loss was felt by all, he being universally beloved for his kind disposition and agreeable manners; while his talents rendered him a most useful and important acquisition to the duty the ship was employed upon. The shock that the sad news produced was awful; every one seemed to feel it as a personally afflicting calamity."

Thomas Edmonston was the eldest son of Dr. Laurence Edmonston, of the Shetland Islands, and was born on the 20th of September, 1825, at the seat of his uncle at Buness. He was a very delicate child, and the utmost care was necessary to restrain his brain from work until his constitution had become strong. He had hardly completed his fourth year, when, to the surprise of his parents, he taught himself to read in a most peculiar manner. Having an extraordinarily quick and retentive memory, he asked whomsoever he could get to read to him. Two or three readings were sufficient to impress the matter on his mind, and then he learnt the words from the book, thus avoiding all spelling out of syllables. When four years old he began to show a predilection for natural history, especially ornithology. No doubt his father's taste for these studies tended to lead him towards them. So great was the boy's faculty of observation, that if a bird was placed before him he could find out its name by referring to Bewick's 'British Birds,' and

this was at a time when he could not yet speak plainly. He was never satisfied until he knew the scientific appellation of every animal he met with, and this desire led him early to the study of Latin and subsequently to Greek. He was eight years old when he began to pay attention to plants. At the age of twelve he met with Mr. James M'Nab, who was on a tour in Shetland, and to whom he showed the *Arenaria Norvegica*, his first addition to the British Flora. Mr. M'Nab encouraged him, and from that time the pursuit of botany became his ruling passion. When fourteen, he made an excursion over the Shetland Islands, gathering materials, afterwards of course augmented, for his Flora of Shetland, published in 1845. His education had been conducted at home by his father until 1841, when he was sent to the college at Edinburgh, where he attended natural philosophy, languages, and Dr. Graham's Botany. In 1843 he delivered a course of lectures on his favourite science in Lerwick, and in the following year in Elgin and Forres. The winter of 1843–44 he spent at Aberdeen, under Dr. Macgillivray's instruction, and discovered a new species of mollusca now bearing his name. In the spring he became a candidate for the professorship of Natural History, in the Andersonian University, Glasgow, and gained the election by a large majority. He had just prepared his lectures and settled in Glasgow when the appointment as naturalist of H.M.S. Herald was offered to him. His ardent wish was now fulfilled; and looking forward to a situation most congenial to his taste and feelings, he joined the vessel without having even had time to wish his family farewell.

If his friends and relations weep for one of whom they might be justly proud, science has no less reason to regret the loss of so enthusiastic a student. Had his life been spared he would no doubt have become one of the first botanists of the day. He had already, young as he was, published a Flora of the extreme north of the British Islands, and contributed many able articles to Newman's 'Phytologist,' and other scientific periodicals. The piece of oak which was placed at the head of his grave will in future be searched for in vain; but his brother naturalists will meet on the shores of the ocean on which their talented colleague died, an evergreen shrub with dark red panicles. It is the *Edmonstonia pacifica* (Seem.)*, a monument erected to his memory by an ardent admirer of his talents.

Our station in the bay was on account of the ground-swell so inconvenient, that we shifted our berth a mile further off shore, where we rode much easier; and on the 26th of January, before daylight, we were again under way, standing for the Esmeraldas river, a few miles to the northward; but the wind failed and we had to anchor at sunset off Point Gordo. Gordo is a common appellation on this coast, being usually applied to a bluff rounding point, such as this one is. The point should not be hugged too closely; there is a shallow patch off it four or five miles to the westward, having in many parts not more than four and four and a half fathoms; it extends from the town or river of Atacamas

* This plant has been figured in plate xviii. of the Botany of the Voyage of H.M.S. Herald, and is so different from all known genera that it will probably become the type of a new Natural Order.

on the south, up to Point Gordo, and the shallow water goes four or five miles off the coast, so that, until accurately sounded, it would be prudent to keep thus much off the land.

Among the products of these regions there is the India-rubber tree, a straight tree, growing to the height of sixty feet, at the upper part sending off numerous branches covered with rough bark. The natives make boats of the elastic resin, and a kind of cloth similar in its uses to oil-cloth and to Mackintosh's famous article; they also make it into torches, which emit a pure and brilliant light.

On the 27th of January, before daylight, we got under way, the weather being gloomy and threatening rain, and in the forenoon anchored off the Esmeraldas river. The river has a course of 350 miles and upwards. Rising in the neighbourhood of the volcano of Cotopaxi, and passing through the elevated region of Ecuador, it increases by a number of tributaries, and becomes, next to Guayaquil, the largest river on this coast; for commercial purposes it will never be of great avail, except for the smallest class of vessels. It is extraordinarily rapid: although we were lying three miles from the mouth, in ten fathoms water, yet the sea was much discoloured, and our boats had considerable difficulty in pulling against the current. The town of Esmeraldas, a poor and ill-built place, has about 1000 inhabitants, and is situated on the left bank, about ten miles from the mouth of the river. The prosperity of Guayaquil has been rendered so high by its commerce as to cause jealousy in the capital, and the Government of Ecuador has therefore

endeavoured to make Esmeraldas a port; but Esmeraldas is far from possessing the advantages of Guayaquil, either as to magnitude or external communication. Cocoa, sugar, various sorts of wood, large bamboos, used much in building, and a species of *Quina*, are exported. There is little direct trade with these productions; they are mostly transported on the balsas and in small coasters to Guayaquil.

On the 28th of January we weighed and stood to the northward. Heavy rains and light variable winds continued throughout the night. On the following day we were off Gallo Island, which almost adjoins the main, and is famous as being the place where Bartholomew Ruiz, the hardy and experienced pilot of Pizarro's fleet, first anchored; and where Pizarro himself spent part of that dreadful season when Almagro returned to Panama to obtain reinforcements. Even now, with some acquaintance with the geography of the country, we are amazed at the exploits of that hardy band in persevering in their attempt to discover and conquer Peru. The entangled roots of the mangroves, the vast swamps, pathless forests, high mountains, want of wholesome or sufficient food, are obstacles which would have deterred almost any man. But the Spaniards seem to have been endued with almost superhuman powers; the lust of gold and the fire of fanaticism appear to have animated them with zeal, energy, and powers of endurance, which, though the relation of their deeds make us shudder with abhorrence and indignation, must ever command admiration.

CHAPTER V.

Boundary line of Nueva Granada—Commencement of the Survey—Bay of Choco—River Iscuande—Gorgona—Buenaventura—The Vinda of St. Peter and St. Paul—Bay of Panama.

We now entered upon the coast of a new State, that of Nueva Granada. With a continent before them, the inhabitants dispute about boundaries. The river Mira, falling into the sea, is the boundary, but which of the mouths to take is the question. Those who wish to join Nueva Granada say the channel flowing south of Point Mangles is the one intended, while the Ecuadorians maintain that the Tumaco branch, about twenty miles to the northward, is the true one. As far as the natural divisions of the country go, one would say that it appertains to Ecuador; and in a late map the boundary line of the two countries is moved altogether to the river Paitia, or Patia, sixty miles north of Tumaco, falling into the sea just north of Point Guascamo.

The freshes, the rolling swells, and the numerous trunks of trees we were continually meeting, plainly indicated that we were in the vicinity of a large river.

The streams, although not large for a continent, or deep, still send a considerable volume of water into the sea; and draining a country of some elevation, they have more force than might be expected. In the afternoon the island of Gorgona was in sight; three peaks being its prominent features. The coast appeared to have a heavy surf breaking upon it; the trees were actually in the water; the tall mangroves, with roots exposed for twelve or fourteen feet, formed a huge tangled trellis-work, from which the tall straight stems rose to a height of sixty or seventy feet.

Having anchored during the night, we weighed at daylight on the 30th, and stood towards Gorgona. The wind being light, and varying between south-south-west and west-south-west, we made little progress, and at ten A. M. anchored about five miles from the main-land, the centre peak of Gorgona being about five leagues distant. The barge was hoisted out, and with the rest of the boats was prepared for surveying. The Pandora stood on upwards of five miles, then moored and fired three guns to measure the distance by. There our surveying work began; it was the base whence our proceedings in the Bay of Choco were to be carried forward. The boats then left the ship to sound between the two base stations, Herald and Pandora, and the mainland.

The shores are densely wooded, the tides strong, and the swell heavy on the banks and shoals lying off the creeks and streams with which this coast is interlaced. The province of Choco is a marshy country; the houses are built upon posts to avoid inundation or the redundancy of vegetation. One can think of nothing

save these circumstances; they are brought to mind on every occasion. On landing, the rank luxuriance of the vegetation is surprising. The alluvial soil is not only saturated with the rain which descends in torrents nearly every night, but is overflowed with the bursting waters of the numerous branches of the Patia, Iscuandé, Ammirales, and Sanguayange. The tall mangroves are seen actually growing in the water, forming a grove of innumerable pillars, at a distance quite ornamental, but from their intolerable monotony soon becoming hideous; the desert does not exceed in gloomy weariness these trackless forests. The mangrove-trees, however, are not useless; the wood, though it has a disagreeable smell, is much used for firing, and ignites quickly. The tall straight stems form posts for the houses. In this season the atmosphere is generally murky, so that a sight of the lower range of the Andes was rarely gained. One mass of foliage was all that could be perceived from Guascama to the mouths of the river San Juan.

The breakers, as seen from the ship, appeared to line the coast, but a channel was found, through which a line-of-battle ship might have entered. Inside also an extensive basin opened out, well protected by the outside shoals. The natives spoke slightingly of it; but if trade flourishes, such a place on a coast seldom or never visited by storms must become important. There is a rise and fall of eleven or twelve feet, and the tide-stream has considerable force near the shore, more than two knots an hour. We did not, however, observe them accurately. The name of this inlet was the Sanguayange. We met

two or three people and saw only one house, and heard afterwards that the natives had been frightened by the appearance of the ships, there having been rumours of a disturbance between the republics of Ecuador and Nueva Granada. We were told that many had even gone so far as to leave their houses and retire up the country.

On the 1st of February we remained in the same position. The natives came off in some numbers, two or three rude boats with some decently dressed people; they brought fruit, but, from the little intercourse they had with the world, could give no information. On the 2nd we went into the river Iscuande. As in the Sanguayange, we found the depth of water considerable, but variable, still capable of affording protection. The houses were all built upon posts, made of the mangrove stems, and ascended by rude ladders, merely thick planks cut in notches. The ground-floor was often not even enclosed, and an enemy with a sharp axe might have brought the house down in a short time. The rafters of these houses in the air were of bamboo covered with matting and cloth made from bark, of admirable consistency, and almost like leather. The roofs were formed of palm-leaves, thatched much in the manner of our straw sheds, though they did not present the same neat and finished appearance. The sides were perfectly open, so that every breath of air could enter, which in such a climate, to an idle, lounging, lolling race, is a comfort. We were surprised to see so much neatness in the construction. In England the buildings would have been called elegant summer-houses; but the bamboo affords great facility for such purposes, and may be said to be

in architecture what the Banana is in food, the most bountiful and beautiful production in nature, and, by the very facility with which it is procured and applied, an incentive to indolent ease, an encourager of the too prevalent idleness of the tropics.

An uninhabited place, however beautiful, has always a forlorn and desolate aspect. In this region, where the mangrove forest and the jungle occupy by far the greatest space, a few cottages, simple as they were, gave quite a different impression. The inhabitants were civil, and all had a swarthy aspect; in fact it is unlikely that there is any pure Castilian or Spanish blood in South America. In the ages that have elapsed since the conquest, the races have mingled so much as to be almost indistinguishable. The very fact of their pretending to classify them into sixteen varieties would prove this assertion; and when we consider the contempt in which the old Spaniards professed to hold the Creoles, and the desire they had to return to Europe when a fortune had been amassed, it is not remarkable that the descendants of the original discoverers and explorers should soon have amalgamated.

On the 5th of February both vessels anchored off Gorgona, procuring wood and water, an easy task, streams being abundant, and the soil covered with the finest timber. In this island Pizarro and thirteen followers, whose names are deservedly commemorated for their courage and devotion, passed seven dreary months. We were disposed to look upon it as an earthly paradise, but the Spaniards, to whom it had been the scene of so much suffering and such undaunted resolution, had dif-

ferent feelings towards it. "The Hell," "the detested isle," were the terms they applied to it.

Few people live on the island, and they appear to enjoy the state of *dolce far niente* in which Creoles delight, and which appears to have been carried to its height among the inhabitants of Guanahani and Haiti on their discovery by Columbus. Guavas, pine-apples, oranges, limes, bananas, and camotes or sweet-potatoes are abundant. The guinea-hen, the common barn-door fowl, and a pig or two gave not only the necessaries, but the luxuries of life. The houses are similar to those on the mainland. The most airy summer-house in an English garden is more enclosed than these tropical domiciles; but they are adapted to the climate, and the broad eaves with a mat hung up inside would suffice if wind and rain should come on together, a conjunction that does not often occur.

The rise of the tide we ascertained to be five feet six inches; its highest was at 10h. 30m. A.M., and its lowest at 4h. 50m. P.M. By reduction therefore it would be high water at full, and change about 3h. P.M., and the rise and fall would be nine feet. Among other reminiscences of Gorgona, it may be noted that in 1705 the Cinque Ports, after leaving Alexander Selkirk on Juan Fernandez, was here run on shore by Captain Stradling, and the crew obliged to surrender to the Spaniards.

On the 7th we departed and took up a position on the Main, off the river Iscuande. The evening was clear and bright, but it rained heavily during the night, and we were given to understand by the natives that the wet season was following us; that northward rain is later in

the year than near the equator. On the 9th we stood to the north-east. Our plan of proceeding was very regular. The Pandora, the first day, took up a position more than five miles north-east of the Herald; this distance, measured by sound, formed the base for our future operations. On the following day we shifted our berth five miles, or thereabouts, beyond the Pandora; each day the boats went away sounding, or taking up stations for others to angle to; while true bearings, and measuring the angle from any boat showing her flag, employed those on board. The dense mass of foliage at a distance of five or six miles presented no objects of interest; in fact, the first station, in 1° north, could hardly be distinguished from the last, 120 miles further north. As far as estimating the tides by observation and sounding on board, we found the flood setting north-by-east, one knot an hour; the ebb south-south-west, about one and a quarter knot an hour. Heavy rains visited us chiefly during the night; the days were generally fine. A land breeze usually blew off about east-south-east in the morning, but died away towards eight or nine in the forenoon. About noon, or rather before, the sea-breeze sprang up, faintly at first, but freshened up in the afternoon; towards sunset it was generally strongest, then it died away: the nights were commonly calm.

We meet no ships, and only a few inhabitants. It is an unfrequented coast in an uncivilized country, or rather a half-civilized and almost wholly unoccupied country. In England the confines of a wood remind one of a park; trees excite ideas of refinement, elegance, luxuriance, and retirement: there are so many feelings connected

with trees, that it cannot but influence one in beholding for so many leagues the vast forests with which the Pacific Ocean is skirted. There is a grandeur in the very desolation, with nothing human about it, but few and far between a poor palm-thatched cottage, inhabited by a race holding little intercourse with the world, and mostly either overcome by the climate or indifferent to exertion. The monotony is great; trees, and nothing but trees, ever since we made the land, relieved, and hardly relieved, by entrances into rivers lined with mangroves or swampy jungles.

On the 1st of March we were off the river Buenaventura, one of the chief estuaries on this coast, and promising to become a considerable emporium for the commerce of Nueva Granada. Some days, or rather nights, of heavy rain had cleared the atmosphere, and on Monday, the 2nd, we had a fine view of an inland range of the lower Andes, towering up to the height of several thousand feet. We proceeded up the river with the end of the flood, and found a channel of very regular soundings, quite sufficient for all the purposes of commerce. The banks displayed more scenery than we had been accustomed to,—little bays, nooks with islands, projecting cliffs. The intolerable mangrove was not quite so common as it had been in the southern part of the bay. On the 3rd of March the Pandora and four boats from the Herald ascended the river. The town of Buenaventura is situated on the left bank of the river, about six miles from the entrance. The site offers many advantages for commerce, and when population increases it will doubtless rise in importance. At present it is a miserable

collection of houses, containing about one thousand inhabitants. At the town the river is about a mile broad; at the entrance upwards of two miles, but full of sand-banks, and the channels somewhat intricate: buoys would greatly obviate these difficulties. If the Spaniards had not trammelled commerce in every possible way, and the republican governments hindered it almost as much by squabbling among themselves, it would long ere this have had a lighthouse and a pilot establishment. It is, in fact, the staple for the southern part of Nueva Granada and the towns of Cali, Popayan, and Cartago. The Government of Bogota has no control over the south-east part of the Isthmus of Panama; there is no land communication between Panama and the capital, the native tribes being independent, and holding little or no communication with the Spanish descendants; all communication must go by way of Buenaventura. The roads in the interior are, however, a great bar to its prosperity; they are rugged and difficult to traverse. Cattle are useless in transporting merchandize, and men unaccustomed to the almost perpendicular passes could not attempt it without the most imminent peril. The natives of the country, accustomed to these precipitous roads, supply the place of animals, and show extraordinary skill and courage in carrying on their backs, not only burdens, but men and women seated in chairs.

Buenaventura and its neighbourhood has the reputation of being damp and unhealthy. The country is surrounded by high mountains, and the rain is incessant. Dampier's description of it is as true as it is *naïf*; he says, "It is a very wet coast, and it rains abundantly

here all the year long; there are but few fair days, for there is little difference in the seasons of the year, between the wet and the dry, only in that season which should be the dry time the rains are less frequent and more moderate than in the wet season, for then it pours as out of a sieve."

On the 3rd Mr. Hill, the master, landed to take observations for time in a little bay near the curious rock called the Vinda of St. Peter and St. Paul, and shot a curasson, the American turkey, weighing about nine pounds. When first seen this bird was pronounced a turkey buzzard, and on being brought on board, a rush was made for the cooks to pronounce upon it. A favourable opinion having been given, the dinner was ordered to be delayed, that the seasonable arrival might be dressed. Considering our short commons, Mr. Hill was voted unanimously the thanks of the mess. Attempts have been made to domesticate the bird in Europe, and from the ease with which it is tamed it would probably not be difficult to introduce so valuable an addition to the poultry-yard.

The Vinda, or look-out, of St. Peter and St. Paul, is an islet, steep, rocky, and clothed with trees. There is a narrow passage between it and the mainland, having four fathoms water, but it is not likely to be used, nor from its narrowness would it be desirable, more particularly as vessels would have no reason for being so near the land. Between the Wheatsheaf—as we styled it, or the Culo de Barca, as the natives call it, a remarkable rock—and the continent, there is no passage, even for a dingy, though it stands at some little distance from the land; reefs and a breaking surf prevent a passage either by land or water.

The tides are strong and irregular, a rise and fall of eight feet at the neaps and twelve at the springs; the ebb sets to the south-west, and the flood to the east-north-east.

On the 7th we had a Buenaventura gale, a single reefed topsail and top-gallant breeze, rather fresh, and accompanied with heavy rain. After continuing for two or three hours, it settled into a calm, dull, murky day, hardly enabling us to work against the tide. The ship tried to shift her berth more to the northward, but being unable to do it, anchored about sunset to the southward of the Negrillos, an awkward patch of rocks, twelve miles west W. by N. $\frac{1}{2}$ N. from the entrance to the river. A part of that reef is always above water, and there is a clear passage about three miles broad between them and the Palmas Isles. On the 9th of March, the rains being fast increasing formed a great drawback to our work; and having examined the coast as far as Point Chirambira, it was determined to proceed to Panama. The winds were contrary, generally from the northward, with frequent calms. We made the land twice,—the first time off Cape Corrientes, a high bluff point, rising almost perpendicularly from the sea, in lat. 5° 28′ north, and pointed out both from a north and south bearing by two remarkable truncated pyramidal hills, one of which is called the Dome, the other the Pyramid; the second time in the vicinity of Point Quemada, a bold bluff headland, so named by Pizarro, and distinguished as being the place of his first encounter with the natives of South America.

On the 23rd of March, in the morning, we made the land about Punta Brava, in the Bay of Panama, and about

noon observed the island of Galera. We ran between it and the Pearl Islands, thereby avoiding the San Jose bank, which had not then been examined. At midnight it fell calm, and we were obliged to anchor till daylight. The wind continued light and variable, and we were able to make but little progress. Nowhere will steam be more appreciated than on this coast, and in this bay in particular. About noon it again fell calm, and we anchored between Chepillo and Taboguilla. Chepillo has been called the pleasantest island in the bay,—perhaps from its nearness to Panama. It is a fertile level spot, abounding in fruits, and more open to the breezes from the north-west than Panama itself. On the 25th we at last reached the anchorage off Flaminco Island, and about ten o'clock in the evening received our letters, the first since leaving England.

CHAPTER VI.

City of Panama—Ruins of Panama Viejo—The islands of Flaminco, Taboga, and Taboguilla—Departure for the Straits of Juan de Fuca—Coyba—Death of seamen—An American vessel—Seaweed—Cape Flattery rocks.

PANAMA makes from the sea a fine appearance. The churches, towers, and houses, showing above the line of the fortifications, stand out from the dark hills inland with an air of grandeur and pretension to which there is no equal on the west coast of America. It tells of days when the church and the fort arose together, and power and dominion, both spiritual and temporal, went hand in hand. We landed just before sunrise, always in the tropics the most beautiful time of day, and at the height of the spring tide, at the Monk's Gate, in the sea-front of the fortification. The first building we came to was a nunnery, with a wide-receding doorway and a turning cupboard for maintaining communication without seeing with whom. The Calle Real, in which the convent is situated, is a respectable street, running east and west, and having a quiet, stately, comfortless air. The clumsy

balconies in the upper stories are but little relieved by the unglazed grated windows, the plain doorways on the ground-floor, by any variety in the buildings, or by the open shop-windows to which English cities owe so much of their gay appearance.

Panama has several buildings which should be noticed. The Jesuits' College in particular, though not completed, is worth seeing, and evidently bears witness to the staid and sober magnificence with which that order ever constructed their public edifices. Lima itself has not a building so perfect in design, chaste and finished in detail and execution, as this half-completed yet ruinous pile. The church unroofed is a garden and poultry-yard, the great court a barrack for soldiers; the beautiful façade of the south front is blocked up with sheds and ill-built cottages. If completed, it would have been a vast edifice. Over the principal gateway is the date 1758, only fifteen years before the Order was abolished by Pope Clement XIV., and over the church-door is their famous motto, all but defaced and torn down,—"In nomine Jesu omne genu flectatur."

Another edifice in ruins attracted our attention; it had been a church, but little more than the four walls remained, and the area was filled with the orange, banana, pomegranate, and cocoa-nut palm. Two large and rich-toned bells were just elevated off the ground, and a flat arch of very peculiar construction, having the least possible amount of upward curve, were the chief objects of interest. The span of the arch, apparently as firm as when first built, was forty feet. The nunnery of Santa Clara, the tower of which, although in ruins, still over-

looks the north-east bastion, is turned into stables; and of the eight parochial churches and thirty chapels which the city was once said to contain, only six besides the cathedral remain. The cathedral is a large, lofty building, on the west side of the Plaza: its situation is an admirable one; but the structure is not worthy of it, being a large rambling edifice, of bastard Italian style, in very bad taste both inside and out,—gaudy tinsel, and pretension without elegance. The towers are large and lofty, redeeming it from insignificance; but although imposing, and an ornament to the city from a distance, they are by no means well proportioned.

We found the streets gloomy and the houses dirty; the wooden balconies and the unglazed windows prevalent. Yet the town is European in its aspect, and there is a solidity, an air of having seen better days about the place, that made it, as a whole, not displeasing to us, accustomed as we had been to the make-shift temporary buildings, and mean, paltry houses, in all the towns on the coast. The fortifications are admirably constructed, but in many parts completely ruined. The north-east bastion has fallen down within the last few years; the south and west ramparts are still in good condition, affording delightful walks, and displaying some fine specimens of ordnance in thirty-two-pounder brass guns, bearing the royal arms of Spain and the date "1773, Anno XVII., 1779, Anno XXIII., Caroli III. Rex Hispaniæ et Ind." These were from the arsenals of Barcelona and Carthagena. "*Tempora mutantur*" one may say at every step.

The best view of Panama is gained from the hill of

Ancon, behind the town. St. Lawrence should be the patron saint of the city, for its shape much resembles a gridiron, the part outside forming the handle. The city, that part within the walls, is called San Felipe; it is nearly square, and surrounded by the sea. The suburb, or Santa Ana, is almost as extensive as the city itself, though not so well built. The markets make a fair display; one is held close to the Watergate, in a narrow inconvenient shed, which however they were about beginning to rebuild. The landing at this gate is bad, even at high water; but at ebb-tide it is execrable, which is the more provoking because a natural pier, or the foundation of it, is ready made in the extensive reefs lying nearly half a mile east and south-east of the ramparts. The most extensive market, however, is held in the suburbs; the supply of vegetables, fruit, grain, and fish is generally very good. Eggs are plentiful, poultry not so much so, and the meat is of inferior quality.

On the 11th of April we rode over to the ruins of Panama Viejo, the town destroyed by Sir Henry Morgan, the buccaneer, in the year 1673. The Spaniards, however, say that they had been before weary of the place, and had determined to leave it on account of its having no harbour. Certainly the new site is in every respect superior, and they had reason on their side in being weary of it on account of the bad landing. An extensive mud-flat renders it impracticable at ebb-tide; and, at high water, from its extreme shallowness, it is very inconvenient. The spot is now deserted, and it is necessary to have a guide, a *practico*, to find it. A

tower, well and solidly constructed, is as firm as when first built. An arch, two or three piers of a bridge, and some fragments of a wall, and a chapel, are the only other remains to be found. The spot is hardly ever visited, except by foreigners. Flat hills, and copses of wood; savanas,—that beautiful word, which always seems to express more than it actually means, is very appropriate here;—grassy slopes, losing themselves in wild thickets, or in wooded glades, where the trees stand as in a park, make the neighbourhood of Panama very pleasing. But roads are wanting, and in the wet season, which more or less comprises two-thirds, and very nearly three-fourths, of the year, the country is almost impassable, and will continue so until some great improvement is made in draining, and in the formation of the roads, which, constructed as they are at present, without suitable regard to soil or foundation, and with no means of carrying off the torrents which occasionally flood them, cannot be expected to last very long.

For the last few years the Admiralty have occupied a store on Flaminco Island, in which we found our provisions. Flaminço is a pleasant spot, and almost a pyramid in shape. The only flat is on the north-east side, where a Mr. Dawson, a Russian, expecting that they would be permanently occupied by the Government, has erected several houses and sheds. It is not however convenient, either for landing or bringing off heavy stores at any time, except at the top of high water, and even then it is difficult. Taboga is two miles long to north-west and east-south-east, and does not average one mile in breadth; its highest hill, the south-east peak, is,

according to barometrical measurement, 935 feet above the level of the sea. The island, though rocky, is fertile, and, considering its size, as delightful a spot as can be found. The people are kind and obliging, and have many of those good qualities in which the milder races of southern climes appear to excel,—those qualities which go so far towards making life agreeable and smoothing its rugged path. The Taboga briques, which are little more than large and clumsy canoes, go daily with the tide to Panama, laden with eggs, fowls, pigs, yams, bananas, camotes, and pine-apples. Taboguilla, the neighbouring island, is similar to Taboga, by whose inhabitants it is partially cultivated. The island is 710 feet above the sea, and has little level ground, except at the summit.

We now made preparations for our voyage to the Straits of Juan de Fuca, and received three bullocks on board. The respective weights were 196 lbs., 268 lbs., and 201 lbs., which will give a fair notion of the small size and poor condition of the animals generally met with on this coast. On the 16th of April, 1846, we departed, and at noon, with a fresh northerly breeze, ran out of the Bay of Panama, going seven or eight knots an hour. This was an unhoped-for piece of good fortune, as the bay is remarkable for baffling winds and calms, and ships are often as many as six days before clearing Punta Mala. On the 18th, about noon, the Pandora was struck by a waterspout. She was about four miles and a half from us, north-east. A squall of wind and rain took us from south-west, and when it reached her a waterspout descended and rapidly approached. Lieutenant Wood

describes it as gyrating from left to right,—an observation of some interest, coinciding as it does with the rotatory motion of the hurricane-storms in the northern hemisphere,—that is, from east to west, round by the north. The column of water was about thirty feet in diameter at the base, small in the centre, and crooked in its direction or elevation. It broke before it struck the vessel, but again united, and then took her aback, and gave her a shower of salt water. The precaution of covering the hatchways having been taken, no inconvenience was experienced. The barometer, standing at thirty inches, was not affected, and the breeze returned to south-west soon afterwards.

Quibo or Coyboa, which we now approached, has been noticed from the earliest times. Dampier, who visited it in 1685, says, "It is extremely convenient for wooding and watering; a rapid stream runs into the sea, with a sandy beach, on which boats land with ease, while large trees grow close to the water's edge." In December, 1742, Anson, in the Centurion, completed his supplies of wood and water here in two days.

Light, variable winds, calms, occasional squalls or puffs, for they were not heavy, with a pretty good quantum of rain, thunder, and lightning—so vivid and close, that again and again we thanked Sir William Snow Harris for his invaluable conductors,—formed our weather for many days. On the 25th of April we appeared to be among opposing currents, ripples, freshes, and a general disturbance or irregular motion in the surface of the water. At nine A.M. we were watching an eclipse of the sun; it lasted nearly three hours, and, although

only partial, it had a considerable effect on the heat and light.

On the 23rd of April, William Murphy, quarter-master, died from fever and a variety of chronic complaints, which the trying climate of the last few months had brought to a crisis; and on the 1st of May, Frederick Brandt, A.B. Both were old, as seamen's lives go,—fifty years or upwards. The climate, though perhaps aiding their death, certainly did not cause it. A few days afterwards, on the 13th of May, a third death occurred—that of James Cook, our rope-maker. The beautiful service for the dead appears more impressive at sea than in other situations. The silence within the ship, disturbed by nothing but the slow tolling of the bell,—the attentive and even pious demeanour of the men,—the unmarked spot in which the body is committed to the deep,—seem to shadow forth the unknown and illimitable eternity far more than the most solemn pageantry on land.

On the 16th of May, in 10° north and 100° 39′ west, we fell in with the first spirit of the trade-wind; it sprang up in the forenoon, first from north-north-west, then it failed again for about an hour, but before sunset came fresh and steady, varying between north-north-east and east-north-east; its general direction being north-north-east. On the 24th of May, in 12° north and 116° 42′ west, we experienced a decrease in the temperature; the thermometer stood at 77° and 78°; but the change from 86° and 88° seemed to us immense—it was a new climate. The nights began to be more cloudy; strong breezes, with a head sea, roused us as well as the change

of temperature. The Pandora caught occasionally some bonita, but we were not so fortunate*.

On the morning of the 3rd of June we passed the tropic of Cancer in 130° west. On the previous day the sun was vertical, and the weather seemed cooler the nearer we approached it. This has frequently been noticed, and is analogous in some measure to the distribution of heat during the day: the highest degree of temperature is generally not observed at noon, but about two P.M. On the 4th we had a sort of epitome of the weather during the passage; calm, light winds, and fresh breezes succeeding each other. A giant petrel was shot and picked up. The down and feathers of the breast of this bird were extraordinarily thick, adapted, one would imagine, more for arctic than tropical regions. It weighed about six pounds, and measured, from wing to wing, ten feet.

On the 7th of June, in the forenoon, a sail was reported—the first we had seen since leaving Panama. Her movements caused some interest. We were on the

* On the 12th of May, 9° north, 97° west, we tried for soundings, and obtained the following results:—

At 500	fathoms,	44°	Fahrenheit.	
400	„	46	„	Surface 87°.
300	„	48	„	Temperature of air, 84°.
200	„	53	„	Barometer, 30·04 inches.
100	„	56	„	
50	„	66	„	
40	„	77	„	
30	„	81	„	
20	„	83	„	
10	„	85	„	

A plate seen at 22 fathoms depth.

starboard and she on the opposite tack, when, perceiving us, she hauled the mainsail up, took top-gallant sails and royals in, and dodged about, as if waiting for us, having an American ensign and pendant with a signal flying. However, about noon, when still hull down, she made sail, and, being the better sailer, soon left us behind. She was probably waiting for her consort, or imagined us to belong to her squadron, and as soon as the mistake was discovered, thought it not worth while to waste more time. Our heads were full of the American war, in consequence of the dispute about the Oregon territory, which no doubt aided the interest felt in seeing a sail for the first time during a long and tedious voyage.

On the 12th of June, in lat. 33° north, long. 140° west, we considered that the trade-wind failed us. It had not been very propitious, but moderate and fine. The wind, varying between south-south-west and west, carried us to the northward. The temperature rapidly decreased, which braced us up more sharply than was altogether pleasant, living as we had been in a sort of warm bath for six months.

On the 23rd of June, in lat. 47° 21′ N., we passed a shoal of porpoises, a flock of quebrante-huesos (bone-breakers), and complete trees of kelp, the stems of some being four inches in diameter. Captain Cook met with seaweed of an extraordinary size about the same latitude. At daylight on the 24th we found ourselves off Cape Flattery rocks; and thus, after a seventy days' passage without seeing land, was our voyage concluded; yet, thanks to our admirable chronometers, we made the land within a mile,—a nicety of calculation which in

these days is not much to boast of, being performed by three-fourths of the vessels of England and America, as well as France and Holland; but looking back thirty or forty years, the change is immense*.

* On the 6th of June, lat. 26° 38′ north, long. 133° 26′ west, we tried for soundings with the following depths and temperatures:—

At 500	fathoms,	43°	Fahrenheit.	
400	„	44·5	„	Surface, 71°.
300	„	46	„	Air, 70°.
200	„	50	„	Barometer 30·19 inches.
100	„	64·5	„	
50	„	68	„	
40	„	68	„	
30	„	68	„	
20	„	68	„	
10	„	69	„	

On the 20th of June, lat. 45° 30′ north, long. 133° west, the temperature was, at the depth of

500	fathoms,	42°	Fahrenheit.	
400	„	42	„	Surface, 52°.
300	„	42	„	Air, 51°.
200	„	42	„	Barometer 30·24 inches.
100	„	45	„	
50	„	47	„	
40	„	47	„	
30	„	48	„	
20	„	48	„	
10	„	48	„	

CHAPTER VII.

Cape Flattery rocks—Tatooche Island—Indians—Entrance into the Straits of Juan de Fuca—Historical notice—Port Victoria—Harbour of Esquimalt—Fort of Victoria—Port Discovery—Townshend—New Dungeness—Quadra's and Vancouver's Island—Race Islands—Neagh Bay—Departure for the South.

Cape Flattery rocks are three in number, the northernmost of which is a white barren mass, the others are wooded. The Cape was named by Cook in 1778, from its presenting at a distance the entrance of a safe port, which, on a near approach, proved to be deceptive; it is three or four leagues to the southward of Cape Classet, a steep and abrupt promontory, beyond which the coast rises considerably in hills covered with wood. Off Cape Classet lies Tatooche Island, which, having no trees, forms a great contrast to the mainland. The shores are lined with rocks in curious shape, with edges as sharp as if in a newly-cut quarry. The island is divided into two parts, and covered with houses. We went outside Duncan Rock*, though there is a deep water passage be-

* Duncan Rock, so named by Vancouver, from the officer who discovered it, must not be omitted in describing our entrance into the

tween it and the island, but nothing would be gained by trying it; and if baffled as we were shortly afterwards with light winds and calms, a ship is a great deal better outside all*.

From a cove, which nearly divides the island into two parts, and seems to have been formed by art with some view of protecting them from the winter storms, a great many Indians came off to us in their canoes. They boarded us without the least fear, and we had some difficulty in preventing more from coming than would have been agreeable. Their dress consisted of a blanket thrown loosely round the body,—so loosely indeed, that on many occasions it certainly did not answer the purposes intended. They managed their canoes with great skill, seemed good-humoured and friendly, holding up fish, skins, etc., to trade with.

We ran into the straits with a fresh westerly breeze, and were surrounded by numberless canoes, the natives vociferating in their extraordinary drawling tones, expressions of surprise, delight, or annoyance, as they were allowed to come to or were kept away from the ship.

Straits of Juan de Fuca. It is only just clear of the water's edge, and the surf beats heavily on it with any wind; from the north-west extreme of Classet Island it bears north 21°, east (true), ¼ mile distant. There is a ledge to the northward, which must be avoided. Between Duncan Rock and Tatooche Island, as well as between the latter and the main, there is a clear passage. The latter is less than half a mile broad, and there are rocks a cable-length south-east of the island; the former is broader, and has deep water; but it is better, unless with a leading wind, and plenty of it, to give both a wide berth, and go to the northward.

* Captain Kellett discovered a rock, which dries at low water, bearing from Duncan Rock north 45°, east (true), two miles distant.

The breeze failed us as we got two or three miles within the strait; but just as we were drifting out again with a strong tide, a light air enabled us to stem it, and get into Neagh Bay, four miles inside Tatooche Island. Letting go the anchor, and the continued action of the chain rattling through the hawse, excited the attention of the natives in a high degree; their hallooing almost overcame the noise. The country around our anchorage was rather pretty. But an uninhabited, uncultivated country is always wanting in one grand attribute of the picturesque—the industry of man. The country, though far from being uninhabited, was certainly destitute in this respect. Houses, cleared land, and symptoms of attention and labour, wonderfully improve a landscape.

The Straits of Juan de Fuca appear to have been first visited in the latter part of the sixteenth century. A Cephalonian pilot or shipmaster, Apostolos Valerian, who, in compliance with the custom of that age, took, on entering the service of Spain, a new name, that of Juan de Fuca, sailed under the auspices of the Viceroy of Mexico from Acapulco in the year 1592, to discover the long-talked-of passage connecting the Atlantic and Pacific Oceans, a passage still searched for. There is little doubt from his latitude that he entered these straits; but his rambling account and the habit of making supposition a groundwork for fact—a habit, by the way, the world is not even yet quite clear of—have caused him to be treated as an impostor. Judging from the want of knowledge existing in those days, we can imagine the excitement and hope caused on entering this noble inlet, nearly a hundred miles long, averaging ten or fifteen in breadth, diverging north

and south into deep, and apparently endless channels. Being continually in sight of land, Juan de Fuca probably overrated his distance, and finding his way once more into the open sea to the northward of what is now called Quadra's and Vancouver's Island, he doubtless imagined that he had solved the problem, and returned to solicit in vain the reward for his discovery,—a discovery which, even as he himself related it, must in those times have appeared probable, from the belief then universally prevailing, that America on the north as on the south was terminated by a promontory. It was this belief which encouraged those persevering and arduous attempts in search of a north-west passage. Had the actual formation of these regions been understood, the early voyagers, daring as they were, might have been deterred from so vast an undertaking. In this case, as in others, weakness proves strength. Animated by hope and energy, man goes on, seeking perhaps a chimera, but discovering realities which surpass what he imagined.

After Juan de Fuca's voyage, the coast appears to have been neglected for nearly 200 years. Cook's geographical discoveries, with exaggerated reports of the value of the furs procured by the crews of the Resolution and Discovery, again directed to it the attention of the commercial world. Several voyages from Bombay and Bengal preceded that of Meares, who in 1786 wintered in Prince William's Sound, where, in the Nootka, a small vessel of 200 tons, unprepared for such inclement service, he and his crew endured all the miseries that cold, sickness, and insufficient food and shelter can be supposed to produce; and out of a crew of forty

Europeans and ten Lascars he buried twenty-three during this wretched winter. In 1788 he made a second more successful voyage, and partially explored the Straits of Juan de Fuca. He communicated with the inhabitants, and gave much information about their savage and filthy habits, and the valuable skins they had to dispose of. It is from Meares that we have the name of the island at the entrance of the strait; Tatooche was the chief of it and the country to the southward. His description of the natives is unfavourable, and of Tatooche in particular he says, "he was the most surly and forbidding character we had yet seen." Portlock and Dixon, Colnett and Duncan also gained considerable knowledge of these coasts, although, generally speaking, it was of the more northern parts*. No accurate information however begins previous to Vancouver, who, in 1792, -3, and -4, examined the whole with scientific accuracy. His work is still referred to for its agreeable truthfulness, and must ever be valued as an excellent chronicle of the savage tribes of the country, as well as a faithful guide to the traveller and navigator.

On the 24th of June we stood up the straits with a light westerly breeze. At eight o'clock we observed a steam-vessel, the Cormorant, which had been ordered to take us in tow, and lugged us up about sixty or seventy miles, until we had passed Port Victoria. Our knowledge of the place not extending beyond Vancouver's infor-

* The Spaniards also, during the viceroyalty of Bucarelli, A.D. 1775, sent an expedition to examine the coast from Cape Mendocino; but they advanced no further than 57° north, and their discoveries are neither accurate nor satisfactory.

mation, we did not know where to look for the Hudson's Bay Company's settlement. An English merchant-ship showed her colours when we were near the port, and the marks for the buoy rock were also seen; but the latter were taken for native signal-posts, and little attended to. Numbers of canoes loaded with fish were met with, and we were soon feasting on as fine salmon as could be found in Billingsgate. After a seventy days' passage it was most acceptable to the ship's company,—indeed to us all, if we may judge by the way the huge dishes of fried salmon disappeared.

The Cormorant towed us at the rate of seven knots an hour, but the wind was aft, the water was smooth, and we had all plain sail set. In the afternoon it grew thick, and drizzling rain and mist came on, so that not knowing our port we stood as far as we could go to the eastward, and in the evening came to an anchor in the Canal de Haro, about half a mile from the shore. On the 27th drizzling rain and light wind continued, and made the Cormorant's steam-power very serviceable. She towed us back again, with the Pandora astern of us. At seven A.M. we observed Port Victoria, the Hudson's Bay settlement, dignified with the name of Fort, and were soon at anchor.

In the afternoon, a strong north-east breeze having sprung up, and clearing off the misty hazy weather which we had had for three days, the snowy peaks of Mounts Rainier, Baker, and Olympus shone out in splendour. It continued fine, with a southerly wind until the 1st of July, when an easterly wind brought cloudy gloomy weather. A south-west breeze followed so strong that

the boats were unable to go on with the sounding. On the 2nd the wind went down, and remained moderate during our stay, but the sky was cloudy, almost gloomy, and the sun was rarely seen, which was no doubt attributable to the vicinity of the mountains.

The harbour of Victoria is little more than a winding and intricate creek; but three miles to the westward is Esquimalt, a very good one, of which the Pandora afterwards made an accurate survey. Although the entrance of the latter is less than a quarter of a mile wide, yet the depth of water is so convenient that there would be no difficulty in warping a vessel in, and then the most perfect little harbour opens out. The first bay on the right hand going in is sheltered from every wind, and has a depth from five to seven fathoms within a hundred yards of the shore. Victoria may be the farm, but Esquimalt will be the trading port. At present, however, subsistence being the chief object, Victoria no doubt is the most advantageous site for the settlement.

There appears to be a want of fresh water in this harbour as well as at Victoria. Boring has been tried in the fort at Vancouver, but at present without success, and the whole of the south coast of Vancouver may be expected to be deficient in this respect. However, science will easily overcome this difficulty by pointing out where Artesian wells may be made with advantage.

The Hudson's Bay Company selected Victoria from the excellent nature of the soil, and, anticipating the surrender of the Oregon territory to the United States, intended to make it their chief settlement on this coast. In walking from Ogden Point round to Fort Victoria, a distance of

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little more than a mile, we thought we had never seen a more beautiful country; it quite exceeded our expectation; and yet Vancouver's descriptions made us look for something beyond common scenery. It is a natural park; noble oaks and ferns are seen in the greatest luxuriance, thickets of the hazel and the willow, shrubberies of the poplar and the alder, are dotted about. One could hardly believe that this was not the work of art; more particularly when finding signs of cultivation in every direction, enclosed pasture-land, fields of wheat, potatoes, and turnips. Civilization had encroached upon the beautiful domain, and the savage could no longer exist in the filth and indolence of mere animal life. The prospect is cheering, the change gladdening; for after making every allowance for the crimes of civilization, still man in a savage state exists in all his grossness, and in more than all his grossness. While nature has imparted to most animals a desire of cleanliness, uncivilized man, with all the intelligence, ingenuity, cunning, and skill of his class, seems in general to be uncleanly, to revel in filth.

The fort of Victoria was founded in 1843, and stands on the east shore of the harbour, or rather creek, about a mile from the entrance. The approach is pretty by nature, though somewhat rude by art. The first place we came to was the dairy, an establishment of great importance to the fort, milk being their principal drink; the rules of the company in a great measure debarring the use of wine and spirits. The attendants are generally half-caste. We were astonished at all we saw. About 160 acres are cultivated with oats, wheat, potatoes, tur-

nips, carrots, and other vegetables, and every day more land is converted into fields. Barely three years had elapsed since the settlement was made, yet all the necessaries and most of the comforts of civilized life already existed in what was a wilderness. The company, when forming an establishment such as Victoria, provide the party with food for the first year, and necessary seed for the forthcoming season; after that time it is expected that the settlements will provide completely for their future subsistence. Of course the settlers have many facilities, —the fertility of a virgin soil, an abundant supply of the best seed, and that great inducement to industry, the desire of independence, and the assurance, almost amounting to certainty, that success will attend their endeavours.

The fort itself is a square enclosure, stockaded with poles about twenty feet high and eight or ten inches in diameter, placed close together, and secured with a cross piece of nearly equal size. At the transverse corners of the square there are strong octagonal towers, mounted with four nine-pounder guns, flanking each side, so that an attack by savages would be out of the question; and, if defended with spirit, a disciplined force without artillery would find considerable difficulty in forcing the defences. The square is about 120 yards; but an increase, which will nearly double its length from north to south, is contemplated. The building is even now, though plain to a fault, imposing from its mass or extent, while the bastions or towers diminish the tameness which its regular outline would otherwise produce. The interior is occupied by the officers' houses,—or apartments, they should rather be called,—stores, and a trading-house, in which

smaller bargains are concluded, and tools, agricultural implements, blankets, shawls, beads, and all the multifarious products of Sheffield, Birmingham, Manchester, and Leeds, are offered at exorbitant prices. There being no competition, the company has it all its own way: it does not profess to supply the public; indeed, although it does not object to sell to people situated as we were, yet the stores are for the trade in furs, to supply the native hunters with the goods which they most value, as also for the use of its own dependants, who, receiving little pay, are usually in debt to the company, and are therefore much in its power. In fact, the people employed are rarely those to whom returning home is an object; they have mostly been taken from poverty, and have at all events food and clothing. The work is hard, but with health and strength this is a blessing rather than otherwise. Want of white women appears to be the drawback to this prospect of success, and generally leads to connections with the natives, from which spring half-castes, who, from the specimens we saw, appear to inherit the vices of both races; they are active and shrewd, but violent and coarse, while neither their education nor conduct admits them into the society of the European settlers. This must engender a bad state of feeling, and might be remedied by taking more pains with the education and training of these hardy and enterprising, yet more than half brutalized people. We felt quite disgusted in seeing one of these half-castes, bearing as good a name as any in Scotland, beating and kicking a score of Indians out of the fort, with as little compunction as if they had been dogs, scorning them as natives, though

his mother had been taken from one of their tribe and had been no more educated than they were.

Mr. Finlayson, the gentleman in charge of the establishment, appears to be an intelligent man, who by perseverance and a uniform system of adhering to his word and offering stated prices in barter, never receding or offering less, seems to have succeeded in impressing the natives with a considerable degree of respect for himself and the fort. Only one brush has the company had with the Indians, but it ended in a day or two; the gates of the fort having been closed, a nine-pounder fired several times to show what could be done, and judicious and conciliatory advances made to the chief, the peaceable intercourse—from which sprang blankets, hatchets, knives, fish-hooks, and harpoons—was speedily re-established.

On the opposite side of the harbour is a large native village; the distance across is only 400 yards, and canoes keep up a constant communication between it and the fort. Certain supplies to the chiefs keep them in good humour with their intruding visitors. Although all is not done that might be effected, yet some good must result even from this intercourse. The present generation will not change, but their descendants may do so, and improvement will be the consequence. The houses are dirty in the extreme, and the odour with which they are infested almost forbids close examination; but they are built with solidity, the climate rendering it necessary to guard against the cold,—and arranged with some degree of order in streets or lanes with passages running up between them. Several families occupy the

same house—one large shed, little better than an open cow-house or stable in an indifferent inn, the compartments or walls hardly excluding the sight of one family from another. There are chests and boxes rudely made, in which blankets, furs, and smaller fishing gear are kept; indeed the natives seem to resemble their forefathers, as Captain Cook describes them, as much as it is possible for one set of men to resemble another.

On the 4th of July we heard that a murder had been committed on the chief of Neagh Bay, who called himself King George. This man came on board the Herald when we were off Tatooche Island and remained a night; he left early the next morning, and a few days afterwards we saw him at Fort Victoria, bargaining about a sea-otter skin, for which he received eight blankets. On his way home he was waylaid by some Chinooks, who had witnessed the bartering, and either shot or stabbed him. He had doubtless in his time played many tricks of the same kind as that to which he now fell a victim; they usually act and react one upon the other. This King George, when visiting us, was accompanied by an American seaman, who lived among the Indians, and had, in short, become one of them; we understood that he was in little repute in the tribe, and was or had been a slave, and that, after effecting his escape, he had returned once more to the abominable filthy mode of life. To what a depth of degradation must that man be reduced, who, bred up in the poorest ranks of civilization, voluntarily resumes the habits of a savage! We imagine it to be, and no doubt it is so; nevertheless it is not uncommon. It takes an age to raise the savage one step in

the scale of humanity, but civilized man often sinks suddenly into the bestiality seen among these tribes.

Having finished our survey of Port Victoria and its vicinity, we stood across the straits for Port Discovery. This excellent and commodious harbour, named by Vancouver after his ship, has only one fault, the depth of the water being rather too great. Protection Island, as it is aptly termed, forms a breakwater, and a vessel in any part of it is completely landlocked. Vancouver has described it so well that there is little to add. Several streams of good water fall into it, the holding ground is very good, the shores are generally steep, and there is no danger in working in or out. A few ruined villages and burial-places are seen on the shore; and the pathless woods, preventing in almost every direction any ingress into the country, render the scene rather monotonous. At the time of our visit, too, the trees were one mass of uniform green; had it been autumn we should have enjoyed all those diversified colours of the foliage so characteristic of a North American forest—the sombre brown, the light yellow, and the bright scarlet.

Few natives visited us at this place; they prefer, it would seem, the outer coast, as being nearer the fishing-ground. Those we came in contact with were friendly, and brought abundant supplies of salmon. They are fully aware of what a man-of-war is, and, if goodwill had been wanting, our numbers would have deterred them from hostility. Firmness, showing that one is prepared to resist encroachment, and at the same time conciliatory conduct in little things, and taking care to be just in all transactions of barter, will always overawe and

induce them to behave properly. They are great beggars, and, except salmon, have little to offer in exchange. Their vociferations are ludicrous in the extreme: "Jack you patlach me shirt," "Makook salmon," "Clooosh salmon," "Waâke jacket," are specimens of them. 'Patlach' is give; 'makook,' buy; 'clooosh,' very good; and 'waâke,' very bad. If something very old and bad is offered, they turn it over with scorn, pronouncing it to be 'peeshaaak,' a term of contempt and reproach, for which they seem to have a great aversion if applied to themselves. Although the women are said to be not much considered, and have to do a great deal of drudgery, yet we observed that before concluding any bargain their opinion was always final. In barter, knives, hatchets, clothes of all kinds, if not too old and if free from holes, are valued. They sometimes ask for 'muk-a-muk,' something to eat, and oftener for 't-chuckk,' something to drink. 'Pill-pill,' or vermilion paint, and 'pullale,' or gunpowder, are also in request. They display considerable ingenuity in making arrows, fish-hooks, grotesquely carved figures, masks, and, from the gut of the whale and deer, ropes. Their canoes are quite symmetrical, and we saw one forty feet long and four broad; they are hollowed out with an iron instrument fitting into a handle, something like a cooper's adze. The wood is first charred, and then worked away with this gouge sort of chisel adze. The curious process of flattening the foreheads is practised by all the tribes we saw.

On the 13th of July we anchored in Port Townshend. The distance between the latter and Port Discovery by sea is not more than eleven or twelve miles; by land the

two are not five miles distant. Townshend is a more convenient harbour than the former, and water, though it is not so plentiful, can be obtained more easily. The land rises more gradually from the sea, and is not so encumbered with wood. The natives we found civil and obliging. They are very dirty in their habits and perfectly indifferent to exposure; decency has no meaning in their language. The costume of the men is a blanket loosely tied over the neck and shoulders; even the women have nothing in addition, save a sort of girdle round the middle, made of the fibre of the cypress-tree, a substance which is also made into ropes and fishing-lines. They keep dogs, the hair of which is manufactured into a kind of coverlet or blanket, which, in addition to the skins of bears, wolves, and deer, afford them abundance of clothing. Since the Hudson's Bay Company have established themselves in this neighbourhood, English blankets have been so much in request, that the dog's-hair manufacture has been rather at a discount, eight or ten blankets being given for one sea-otter skin. Their mode of fishing is ingenious. The line is made either of kelp or the fibre of the cypress, and to it is attached an inflated bladder, which is held in the same hand as the paddle. When the bait is taken the bladder is let go, the fish is buoyed up, and, in its effort to go down, soon becomes exhausted.

On the 21st of July we sailed for New Dungeness, named by Vancouver from its resemblance to the point in Kent. New Dungeness juts out three or four miles north-east-by-north (magnetic), forming a secure anchorage with all winds, except north-north-east and

south-east. This sandy flat, being about four miles long, and at the base two broad, is hollowed out with lagoons and pools, so that it is a shell of sand and not a flat. The beacons seen by Vancouver still have their successors on this coast; they must have been erected with considerable trouble and labour; the upright centre-piece, supported by spurs diagonally placed, was in one instance thirty feet, in another twenty-seven feet high. Their use, or the intention with which they were erected, is still unknown.

On the 22nd we stood across the straits for Quadra's and Vancouver's Island, and anchored nearly in the same spot as that to which we had been towed by the Cormorant on our first arrival. Three trees with a dark patch of ground so exactly resembled the masts and hull of a vessel, that—the weather being hazy—every one was deceived. Cordova Bay, as our anchorage was called, brings a pleasant circumstance in Vancouver's career to remembrance—his uniting with the Spanish Commandant Quadra in all friendly offices, and giving him all the aid and information in his power, though Spain and Great Britain had at the time some dispute about the possession of Nootka Sound. The fame and name—albeit famous in those days—of the Spanish armament of 1790 has passed, but it should not be forgotten that in this distant part of the world commanders belonging to rival nations joined in acts which tended permanently to benefit mankind; and it is to be hoped that the name given to this island will be retained, and that Quadra and Vancouver may remind future ages when and how to agree.

On the 29th we worked round to Victoria, and on the 1st of August we anchored to the northward of the Race Islands, about eight miles from Victoria. This dangerous group, which juts out a mile and a half into the fairway of the strait, is appropriately named, for the tide makes a perfect race round it. We tried to shift to Sooke Bay, about ten miles to the westward, but it blew so fresh, that after battering at it for nearly six hours we were compelled to bear up and anchor in the same place. On the 7th our attempts to reach the bay succeeded, and we found that it would be no desirable anchorage during south-westerly gales.

On the 16th we got under way, working for Neagh Bay. It came on thick and hazy, and about noon the breeze freshened much, and we could neither see nor do anything. The tides being strong and irregular, our position was one of some anxiety. In the afternoon we got a glimpse of the land, which showed that we were very near the shore, close to Sooke Bay. The vessel was kept away, and we came to an anchor almost in the spot we left on the 12th. These details will give some notion of the navigation of the straits, which, unless the anchorages are well known, must always be attended with difficulty and danger.

The climate of this region is milder than that of England. From April to August the weather is generally fine, but occasionally interrupted by rain, fogs, and breezes. Heavy rain is expected in September, October, and November, gales between December and March. During our stay the weather was generally beautiful; the nights were finer than the days. It was seldom, however, that

the double peak of Mount Baker or the snow-clad range of Olympus were in sight. The limit of perpetual snow in latitude 45° is given as 8366 feet above the sea; if the theory is correct, these mountains are fully as high, for the summer was far advanced, yet no diminution was apparent in their snowy mantles.

On the 18th we anchored in Neagh Bay. The fog was so dense that nothing could be seen a hundred yards off. In the winter this bay is frequented by whalers—Boston ships, as the Indians call them; while English men-of-war are termed King George's ships. A large village, or rather a series of villages, exists in the neighbourhood. The Captain visited the chief, Flattery Jack, who received him lying down on a raised bench—which usually extends all round the native abodes,—his favourite wife reclining on a board close to his feet. On the rafters overhead were fish in every state of drying; Winifred Jenkins would have been reminded of the old town of Edinburgh, and would have said that there were no fits in the Straits of Juan de Fuca.

On the 29th of August the survey was finished, not so much to the satisfaction of Captain Kellett as he could have wished, but the fogs in August had been so dense and continuous that the month was in a great measure lost. On the 2nd of September we bade adieu to Victoria and Mr. Finlayson, the company's officer in charge of the fort, to whom we were so much indebted for his uniform hospitality and kindness.

CHAPTER VIII.

Cape Mendocino—San Francisco—Visit to the Mission—Monterey—Islands on the Coast of Lower California—Excursion on Cerros Island—Mazatlan—Tepic—San Blas.

On the 14th of September we made Cape Mendocino, a remarkable promontory, with several detached rocks off it. On the 17th we anchored, in a thick fog, thinking the place to be Bodegas, but on landing found it to be merely a spacious bay inside Punta de los Reyes, that point bearing west of us. It is a good anchorage for at least nine months of the year, and from it San Francisco can be approached easily.

On the 18th we ran into the Bay of San Francisco, about which we had heard and read so much; but we were disappointed. A harbour it can hardly be called; rather an inland sea, into which three large rivers, the Sacramento, the San Joaquim, and the Tale fall. These cause rapid tides and numerous shoals, so that its depth of water is not commensurate with the extent of the bay. On the banks of the Sacramento and San Joaquim there is much fine land, but not equal to the speculator's hopes. The

Sacramento, the Colorado of California, and the southern branch of the Columbia, are believed to have their source about the same spot, 110° or 111° W., 41° or 42° N., in the Rocky Mountains. The entrance of the Sacramento is twenty miles to the northward of Yierba Buena. The anchorage of Yierba Buena is perhaps the best in the bay; it is free from the irregularities, ripplings, and overfalls which the strong tides cause in the other parts. The passage up to it is also free from these annoyances; it has however the fault of having no fresh water, nor does the supply seem abundant even for shore consumption or irrigation. The Bay of San Francisco, from its depth in some places, and its extreme shallowness in others, is in a great part unavailable; while the bar off its mouth, with the heavy swell so frequently upon it, renders egress and ingress often dangerous.

We anchored in Yierba Buena cove, where we found the U.S. corvette Portsmouth, of twenty-four guns (sixty-eight pounders) and 1320 tons. Our arrival seemed to cause surprise, and we were at first mistaken for the Erebus. A lieutenant came on board, with the news that the Americans were in possession of California, and that several of the officers and men of the vessel were on shore engaged in organizing parties for the defence of the country.

Some of us paid a visit to the Mission of San Francisco. The junction of religion and civilization appears at first sight to promise much, and to be what every well-disposed mind would desire. Like many other theories, however, its application has proved to be impracticable. Nothing could be imagined more philanthropic or more

worthy of success than the plan of these establishments; but their failure, which has arisen from a variety of causes, has been lamentable and complete. The very shadow of their former fame has passed away, and it may almost be said that injurious instead of beneficial effects have been the result.

About twenty houses were scattered about the plain, and the only sign of activity witnessed was a bullock being brought in. The road to the Mission was fatiguing and monotonous, and led through thickets of low trees and deep sand. The surrounding country was far from being picturesque; we saw it moreover under sad auspices—ruinous, dirty, and about to become the abode of the Mormonites. The church of the Mission, a slovenly, ill-built edifice, decorated in a tawdry, unpleasant style, common in the poorer churches in Spain and Italy, was still in repair. The houses intended for the Indians were of the meanest description—mere mud hovels, with only one apartment, but disposed regularly in ranges and streets. These were for the married couples; those Indians who remained single were locked up in a quadrangle, formed by the houses of the superior, the priests, and officers of the establishment. The church, the factories or workshops, and the prison, everything was carried on within itself; carpentering, weaving, blacksmith's work, were all pursued with success under the auspices of the industrious, pains-taking Padres. However, the confinement in which the Indians were kept, and a solitary life, were usually found so irksome, that few of them continued long under lock and key; they soon acquiesced in that state of passive obedience, which it was the aim

of the institution to establish. That the fathers did not go beyond appears to have been their great fault, the rock on which their system struck. We found the house of the superior in the possession of some Mormons, who had arrived in great force: they are a peculiar sect, with sensual maxims, but apparently, as long as they can exist in plenty, disposed to be harmless.

At the time of our visit the gold had not been discovered, and San Francisco was extremely dull. One evening, however, an American whaler, the Magnolia, of Boston, gave a ball, and all our young people went to it; and judging from the numerous little anecdotes and incidents which were afterwards told of that ball, they must have enjoyed themselves very much. There was a very motley company, and gin was in great request. One of the officers asked a mother if she would permit him to dance with her daughter. "How can you dance with her when she doesn't know your name?" was the reply. "Whiffi*n* is my name, Madam." "Here, Betsey," said the mother, "here's Whiffe*rs* wants you." And off the pair started.

On the 22nd we made all plain sail out of the Bay of San Francisco. The wind was fresh, and it was not until the afternoon that we succeeded in working out against it. A heavy swell as usual was on the bar at the entrance, and as several whalers were departing at the same time, it was an exciting scene. The swell and the breeze accompanied us until the following day, when we were off Monterey. The Pandora went in to obtain a letter left by the Admiral. She found the U.S. frigate Constitution there, and the Americans in full occupation of

the place. Monterey resembles Callao and Valparaiso, being an open roadstead, exposed to the northward, and having a mere bend in the coast for its southern extreme. Nevertheless it is considered safe, as the north-west winds, though sending a heavy swell into the bay, do not blow home, and when at all fresh cause an effect which makes vessels ride easy at their anchors; but, as on this coast generally, the great danger is from the south-east gales, which occur between November and April, and usually give warning of their approach by heavy dark clouds, swell rolling in from the southward, and pouring rain. On these indications ships immediately slip and run to sea, and they are sometimes five or six days before they are able to return. Fortunately, though sufficiently so to require a sharp look-out, these gales are not of frequent occurrence. The town of Monterey is at the south extremity of the bay, protected from the southward by Punta Pinos. Under the Spanish rule and that of the Mexican Republic, it has never risen from obscurity. It remains to be seen what the more enterprising and energetic American will effect.

On the 26th we spoke a Mexican brig, which was bound to San Francisco, and was fifty days from Mazatlan. She did not express any alarm at the war, but we heard afterward that she fell into the hands of the Americans, and was used by them as a transport vessel. They probably paid for her, as their principle was not to offend or irritate the people more than they could help. The war was for an object against the Government; had the Americans made it a war of races, their end would have been frustrated, whatever might have been their

temporary success. After we had parted company with the brig, a dense fog came on so suddenly that we lost sight of the Pandora, which was rather annoying, as Mr. Wood was with us employed upon the charts. However, after an hour or two's firing, ringing the bell, and beating the drum, we got a glimpse of the vessel, and put him on board. These fogs are peculiar and frequent on this coast, continuing sometimes for several days in succession.

On the 27th we fixed the position of John Begge's reef in 33° 22′ 0″ north, 119° 44′ 0″ west. This dangerous rock has deep water round it, and lies to the west-north-west of San Nicolas Island, one of the groups which line the Californian coast in this latitude. We also surveyed San Nicolas, San Clemente, and the Coronados Islands. The Pandora went into San Diego, the Herald remained off the low, arid, and uninteresting shores. The land had a denuded aspect; neither lake nor river gladdened the eye. The only object to enliven the scene was the mission of San Diego. The building resembled that of San Francisco, but, as far as could be ascertained with our glasses, it had more pretension, and the church tower was higher. The village, or houses of the Indians, however, did not cover the same extent of ground.

On the 2nd of October we were enveloped in a thick fog; all at once it cleared off, and we found ourselves close to the barren and lofty Coronados, a group composed of three islands. We anchored off the southernmost island: this, though the most fertile, only produces grass and low shrubs, which, like everything else at this

season, were dried up and withered. By barometrical measurement, the highest peak of the island was found to be 575 feet above the sea. On the top we caught three rattle-snakes and a tarantula; the former were very fierce, darting at everything placed near the glass vase in which they were confined. The length of time these reptiles existed without any sustenance was remarkable; one continued not only alive, but as fierce as when first captured, for eight months afterwards. The northern Coronado is a mere rock; Mr. Hill however got to the summit, and found it as sharp as a camel's back, with hardly room to place the theodolite. Seals abound on the rocky shores, and the Americans often detach their boats from their vessels, establish fires in the island, and shoot down these animals in vast numbers, boiling down the blubber ready for the ship on her return.

On the 11th the weather was most beautiful—a mild balmy air in the finest climate in the world; but on shore there was not a shrub, not a blade of grass to rejoice in. About noon we anchored off the steep rugged Cape Collnett, named after a navigator and lieutenant who, in the year 1790, commanded a trading vessel, the Argonaut. This promontory is a remarkable point, something like the South Foreland, or Cape Dimitri in the island of Gozo. A bay runs up from it to the north-east, in which landing might be effected. The mission of San Tomas is placed four miles inland.

On the 14th we were close to the double-peaked island of San Martin, a most barren and desolate spot, apparently an extinct volcano. The rocks were swarming with seals; we had never seen them in greater

abundance; and their howling, shrieking, and barking rendered them most unpleasant neighbours. The position of the island is in lat. 30° 28′ 0″ north, and long. 115° 57′ 0″ west; the right peak is 567 feet high. On the 15th we anchored off the shallow port of San Quintin, which is distinguished by five remarkably regular peaks some miles inland. Rabbits, hares, quail, curlew, sandlings, the mackerel, smelt, and crayfish are abundant, and give San Quintin, though a poor port in other respects, a good name on such a desolate coast as that of Lower California.

On the 22nd we passed San Geronimo Island, finding the channel between it and the mainland five miles broad, and on the 25th anchored under the east coast of Cedros or Cerros Island. This island presents extraordinary features, looking as if some deluge had swept the low lands, leaving them smooth and level as a newly-made road. "Cerros" is certainly the most appropriate appellation for the place; it is a mass of hills piled on hills; and although here and there groves of cedars are met with, yet they are hardly in sufficient numbers to give a name to the island. Wild goats are abundant*. The extreme dryness of the atmosphere is remarkable. We found two graves of the year 1819; one of John Brown Sinclair, who was drowned when belonging to the Harriet, the other of Justin Finch, of the Shakspeare, both London ships. The head-boards were of slight

* Mr. John Goodridge, surgeon of the Herald, discovered in this island a curious cactus, which, on being submitted to Prince Salm-Dyck, the best authority in these matters, was called *Mamillaria Goodridgii*, S. Dyck. Afterwards this rare species was found at Guaymas, Gulf of California, but the specimens died before reaching England.

deal, yet the wood was undecayed, and the inscriptions were quite legible. The bay of the island was surveyed, and its position proved to be long. 28° 3′ 0″ north, lat. 115° 11′ 0″ west (south point).

Two of the officers ascended to the summit. "The march," says Mr. Henry Trollope, "was rugged and more fatiguing than we had anticipated. In going up, hardly a drop of water could be found, though occasionally traces of where it had been were observed; in coming down we struck upon a ravine with a stream in it, which in many places was four or five feet deep. If we had had sufficient daylight we could have followed it to the sea, where it might have proved serviceable for shipping. The sides of this watercourse were lined with beautiful shrubs, and even trees, which formed a pleasing contrast to the utterly desolate and barren nature of the surrounding country. The stream had nearly led us wrong. It appeared to wind round to the west side of the island. Expecting a change in its direction, we followed it until sunset surprised us, well-nigh exhausted, at the edge of a precipice which we could not descend. We were obliged to climb up the side of the ravine, and fortunately were able to distinguish the ship at the anchorage before darkness had set in. Though the way was still rugged, we had now a more level space. The sight of the sea and vessel had renewed our strength; but we were thoroughly tired, and whenever we stopped to rest we were asleep almost immediately. Awakened by the coldness of the night air, we trudged on again, and when we reached the beach we were still upwards of three miles from the ship, and it was ten o'clock before

we arrived on board, thoroughly fagged out. Unfortunately we had with us no compass nor barometer; but a rough trigonometrical measurement gave the height of the island 2500 feet."

Having left Cerros Island, we anchored on the 2nd of November in the fine harbour of Magdalena Bay, where the Herald was refitted. The country adjacent was barren and devoid of water, but the shooting parties were very successful with hares and curlew. Abundance of bass, mullet, a sort of skipjack, and silver fish, were caught in abundance; several turtles and a shark were also taken. On the 11th we made Cape San Lucas, the extreme point of the Californian peninsula, distinguished by patches of sand-cliffs close to it, and several detached rocks resembling the Needles in the Isle of Wight. On the following day we entered the port of Mazatlan, and found that our letters were at San Blas, and that the Palinurus transport was in the bay with stores and provisions for us.

Some of us had seen Mazatlan in 1832. Venado Island, with its green and rocky cliffs, the downs dividing the chain of fresh-water lagoons from the sea, the Morro, with the white cottages and the bright beach beyond, were still there; but Mazatlan itself was no longer a rural village, but a commercial town, full of busy merchants and bustling traders: the apathy of the indolent Creole was supplanted by the activity of the English, the German, the French, and the American. Mazatlan is not a good port; it is no more than a bay, entirely open east-by-south to south-west, with shallow water in every part, and vessels of

any size have to lie two or three miles from the town. In the centre of this open anchorage Captain Beechey found a rock having only eleven feet of water upon it. The port however is less unhealthy than San Blas; and between November and June—the months when it is advisable to be on this coast—south-west gales are unknown, and invigorating land and sea breezes prevail.

The town was full of soldiers, who talked as if they intended to repel any attack the North Americans might be inclined to make. This boasting however was not borne out: a few months afterwards the place fell almost without a struggle. The fact is, there is no public spirit in Mexico. The strife of parties has so utterly broken up all nationality that the mass of the people would be glad to receive any strong government that would afford them protection and security for life and property.

On the 21st of November we sailed for San Blas, having on board as passengers Mr. Romaine and Mr. Macnamara. The latter, a Roman Catholic priest, had the intention of founding in California a colony of Irishmen, who would swear fealty to Mexico, and resist the further encroachment of the Americans. This project nearly forestalled the occupation of San Francisco by the United States, and would in all probability either have led to the establishment of an Irish colony, or compelled the British Government to occupy the country.

San Blas is pointed out by the high peak of San Juan, upwards of 6200 feet high, immediately over the town; but the Rock of the Sea, Piedra del Mar, a steep white mass 130 feet high, with from ten to twelve fathoms of water all round, and situated ten miles west of the an-

chorage, renders the approach to San Blas remarkable. There is also another rock, Piedra de la Tierra, similar in shape, but smaller, about two-thirds of a mile from the land. On the 23rd we dropped our anchor off the old town. Mr. Romaine and Mr. Macnamara landed immediately, and a courier went up with them to Tepic to bring down our letters. In thirty-six hours he returned with the long expected communications from home, and what joy they caused must be left to those to imagine who are blessed with kind friends. "As cold water is to a thirsty soul, so is good news from a far country."

Tepic is the second town of importance in the state of Jalisco. In 1836, says Captain Beechey, it contained 8000 inhabitants, and in the rainy season the number is much augmented by the influx of visitors. It stands in a plain nearly surrounded by mountains, and is 2900 feet above the sea,—in itself, one would think, a guarantee against any amount of insalubrity, which some attribute to it. Tepic is only twenty-two miles in direct distance from San Blas; by the road however, which is tedious and fatiguing, it is fifty-six. San Blas, although now ruined and deserted, still retains many marks of ancient grandeur. The houses are solidly built of stone, but the town has long been in a state of decay, and the rise of Mazatlan has thrown it altogether in the shade. In the days of the Spaniards it had an arsenal and dockyard; the remains of the rope-walk and a store-house are still to be seen; but its day is gone by, and nothing in its situation appears to render it desirable that it should again emerge from obscurity.

We shifted our berth for the purpose of watering from

the Santiago, upon which San Blas is situated. Through a path in the woods we rolled our casks into the stream, and took in our supply speedily, not however without considerable fatigue and a terrible conflict with the mosquitoes. From this part of the coast there was a beautiful walk into the town about two miles distant, which, though steep and rugged, was arched over with a dense canopy of leaves, and keeps out the sun. We could only pity the indolence of the natives, who with such an avenue almost formed by nature could suffer it to remain in such an inconvenient state.

We departed on the 27th, standing to the south-west, between the islands Tres Manas and the main. On the following day we were off the Bay of Bandieras, between Cape Corrientes and Corvetena, a place of some interest as the scene of one of Dampier's skirmishes with the Spaniards. The sea-breeze was neither regular nor strong, but we managed to creep along at the rate of fifty miles a day, with the sight of the shore to enliven us. On the 1st of December we fixed the position of a remarkable headland, near the unhealthy river Manzanilla, a white mass of rock something like Arica Head, making it lat. 18° 49′ 0″ north and long. 104° 23′ 0″ west.

CHAPTER IX.

Siguantenejo—A party taken prisoner by the Mexicans—Don Vicente Amaro—Mr. Wood proceeds to Acapulco—Captivity—Departure—Acapulco—Death of William Harris—Cape Velas—Coast of Nueva Granada.—Arrival at Panama.

On Saturday, December 5th, 1846, we anchored off the Morro de Petatlan, a few miles south of Siguantenejo, intending to examine that port and carry on the chain of magnetic observations. We were now on Anson's cruizing ground, when watching for the Acapulco galleon. Indeed, Mr. Walter, the historian of his voyage, describes a bay in latitude 17° 36′ 0″ north, about thirty leagues west of Acapulco, which, considering his means of ascertaining the true position, accords sufficiently with our calculations to render it almost certain that the place in which we had anchored was the same as that in which the Centurion refitted and watered. Even without these recollections of bygone times, the bay itself was pleasing enough to interest us. A steep and rugged coast, bounded by white rocks and barren islets, with a heavy surf breaking upon them, opened out into a pretty little cove about

a mile and a half in depth and less than three-quarters of a mile broad. The Centurion appears to have been the first foreign ship that visited Siguantenejo, the Spaniards, in accordance with their former policy, prohibiting all intercourse with the intermediate ports. It is a snug little port, and at present a depôt for logwood, a valuable part of the raw produce of Mexico; still, with Acapulco so near, the state of the country must be widely changed before it can become of importance.

On Sunday, the 6th of December, we pulled in the port with two boats, and landed in the north-east bight of the bay, in order to avoid the surf. Nothing could exceed the placidity of the scene; the beach was smooth and silvery, and fringed by beautiful shrubs and trees. We imagined from the silence and absence of cultivation that the neighbourhood was uninhabited; and although we found signs of wood-cutting, and evident marks of men having recently been there, yet the idea that we were intruding or that any one could dream of molesting us was far from our thoughts.

The purser and surgeon proceeded to shoot and to collect specimens of natural history, Mr. Wood and Mr. Staunton had just landed, and Mr. Hill and Mr. Trollope were putting up the instruments and getting everything ready for the captain to commence observations, when all at once a rush of men and a cry from some of our people, "Here are the natives!" was heard. From every break in the wood came out a sort of Falstaff's ragged regiment, fully armed however, who drew up in tolerable order. The words of command, "Make ready—preparar—pronto," were given, and the double file presented

arms, not as a mark of honour, but apparently as if about to fire. We were surprised beyond measure. It was totally unexpected; we were unarmed, and all we could do was to confront the motley guard so suddenly turned out for our reception. Captain Kellett advanced, and endeavoured to explain to the chief of the party who and what we were. The only reply he received was, that we must remain where we were until the arrival of "el Señor Comandante." We commenced taking observations, displayed the books, and pointed out the "London" marked on most of them; but it was of no avail to use such arguments to the people we had to deal with.

In half an hour the "Comandante" made his appearance. He came on horseback, in a loose cotton jacket, a coarse country hat on his head, and a huge sabre by his side. He was full of assumed importance; and after a consultation, in which he displayed his ignorance and uncertainty as to the course he ought to adopt, he came to the conclusion that, as our language and that of the Americans was the same, we might be citizens of the United States, and that at all events it was safer for him to consider us so. Unfortunately we had no ordinance from the Mexican Government, as to the purport of our voyage. The books, the instruments, our unarmed condition, and buttons with the crown upon them, and numerous other little circumstances, would have convinced any one of common discernment or education that we were what we stated ourselves to be; but it had no effect upon this obstinate and ignorant man, and after half an hour's delay he intimated that we must go to a logwood shed on a little eminence about half a mile dis-

tant, and that Mr. Wood, the commander of the Pandora, should be allowed to proceed to Acapulco and receive instructions from the Captain-General of the State. On being told that on board there were sick, who needed assistance, he permitted the surgeon, Mr. Goodridge, to return; the rest were told to consider themselves prisoners.

Great was the excitement when the news became known on board. Some were eager for a rescue, and the ship immediately weighed, but light winds and calms prevented her from making any progress, and she was obliged to anchor again. Our night on shore was passed miserably; the morning brought better things. Mr. Goodridge arrived with a good breakfast; after which a clean shirt and a shave made us look upon our condition, captives as we were, with different eyes. About noon the Herald came in with the sea-breeze, and took up her position within half a mile of us. The Comandante, who rejoiced in the name of Don Vicente Amaro, seemed rather alarmed at the size of the ship, and evidently feared that a rescue or an attack would be attempted. He assured Captain Kellett that if he saw any preparations for that purpose, he would immediately mount us on horses, and send us into the interior. No doubt an attack from the vessel would have repulsed treble the number opposed; but in the meantime we were unarmed, and could have offered little resistance, and we should have been in the interior and our guards dispersed in all directions.

On Monday we erected a tent, and communication by the dingy took place three or four times. We were supplied with good fresh meat and vegetables, and,

though provoked by the needless and irritating detention, we occupied our time better than in useless complaining. Don Vicente Amaro became occasionally excited and violent; he appeared overcome with the difficulties of the position he had placed himself in, and got half-drunk to ease his mind. Then he would ask us for spirits, and Captain Kellett would send him a bottle of mild claret—rather a febrifuge than a means of excitement—as better adapted to his condition. One day he brought down his daughters, really very nice girls, who were much interested in looking at the ship. On that occasion he made a long bombastic speech to the effect that, as he was to be in the bosom of his family, it was to be a day of peace. His visits were most annoying. The purser, the late Mr. T. Woodward, from his excellent knowledge of Spanish, was the usual spokesman on these occasions. The conferences generally ended with Amaro's embracing us in the Mexican fashion, and begging the Captain to send him some *agua ardiente*. Mr. Trollope always avoided him, and on observing this conduct he particularly sought to speak to that officer, graciously saying, "You need not be alarmed for the result; I have no bad intentions." Mr. Trollope, in the best Spanish he could get up, assured him that the English were not in the habit of fearing the Mexicans.

The natives were far from uncivil. We were objects of curiosity to all: they pressed around us, looked into the tent, and examined every article we permitted them to look at. A good deal of nonsense was uttered by the boys of the place; one saying that he should wait for the hanging, another making signs that we were to have our

throats cut, and a third showing a pit in which we were to be buried. The women however with one accord declared that they would not have us hurt; and no doubt had any extreme measures been attempted this petticoat interest would have been exerted in our behalf. Foreigners with blue eyes and fair complexions generally produce too favourable an impression upon Spanish señoritas to be easily forgotten. Among the nations of Teutonic descent, the English, the Dutch, or the Germans, those who have dark eyes and hair are considered the most handsome; among the Spaniards and their descendants the reverse is the case, and a pure Saxon—even with hair of the reddest hue—is generally admired by the fair sex.

The group of people which usually crowded around us was, as regards form, feature, and colour, as diversified as anything can be supposed to be. There was the glossy skin and thick lips of the negro, the angular feature and the long hair of the Aztec, the lively eye and the handsome countenance of the Spaniard, and every shade of difference which an intermixture of those widely different races had produced. Leperos—not meaning literally lepers, but houseless, half-clad beggars, whose only dress consisted of a pair of trowsers, a light cloak, and a jacket—formed by far the greater proportion. It was truly a motley group—small in stature, various in colour, ignorant and ill-clad,—a mob at whose mercy we should not have liked to have been, though their conduct towards us was civil and even kind.

Close to our tent there was a fresh-water stream forming a deep pool, in which we bathed, until the last day,

when we were deterred by finding a number of alligators basking in it. Well might we have exclaimed; "Where ignorance is bliss, 'tis folly to be wise." The nights were cool and pleasant, the forenoons hot until the sea-breeze set in, when the temperature became delightful. It was the healthy season, and no one suffered; had the detention taken place at Manzanilla, a locality notorious for its insalubrity, we might have had a different tale to tell.

The scenery was very picturesque. It might have been called a dense wood, with patches of savanas, and avenues here and there. Around our tent were palms, American aloes, tamarind-trees, and bananas. The roads were mere paths; and some of our men, who went up to the Puebla, eight or ten miles distant, reported the country clear of wood, but poorly cultivated. We might have made an excursion, but we did not consider it proper to ask a favour from the worthy Don Vicente Amaro. The men, it appears, went on sufferance, and Captain Kellett did not hear of it until we had returned to the ship, or else this little escapade would not have taken place.

On Saturday the Pandora returned from Acapulco with a reprimand from the Governor-General to the Comandante for his stupidity, and a caution how he in his ignorance committed his country. Don Vicente on hearing this seemed quite crest-fallen, and we never saw him afterwards. The crowds of soldiers and idlers, men, women, and children, disappeared as if by magic, and within an hour the place was as quiet as it had been on our arrival on Sunday. Having nothing further to detain us, we continued our voyage (December 14th) to Panama.

The shore between Siguantenejo and Acapulco is remarkably bold, the mountains rising from the sea almost immediately, while to the eastward of the highland of Marques, a long plain, thickly covered with trees, extends some leagues inland before any perceptible rise takes place. From this circumstance Acapulco is easy to be distinguished, particularly when coming from the eastward, as the alteration in the features of the coast is most apparent. Although the distance between the two ports is only 120 miles, yet we were detained so much by calms and light winds, that we did not anchor at Acapulco before the 16th. The sea-breeze generally dies away about nine or ten o'clock in the forenoon, and calm prevails for the rest of the day. By keeping closer in shore and taking advantage of the land-breeze more progress would no doubt be made, but for this purpose an amount of local knowledge would be required which at present we do not possess.

About sunrise the mountains of Acapulco are beheld in all their splendour; their summits are then free from clouds and mist, which is never the case when the day is advanced. The remarkable Tetas de Coyuca, four leagues from the entrance of the port, are the highest peaks of the range, and from an excellent landmark. In approaching closer to Acapulco the Farallon del Obispo, a curious white islet in the northern part of the outer bay, will be seen. It is about fifty feet high, and from whatever direction a vessel is coming furnishes a distinguishing mark.

To speak of Acapulco would only be a repetition of what all navigators, from the days of Cortes to the

present time, have said. It seems always to have had a greater name than it deserved. Its sole recommendation was its port—a perfect harbour,—where the gold and silver of Mexico and Peru and the rich fabrics of the East met at an annual fair, on the arrival and departure of the treasure-ships. True, a communication between it and Callao and Guayaquil was kept up, but this intercourse did not much conduce to the wealth and fame of the place. Apart from its magnificent harbour and the annual visits of the Spanish treasure-ships, Acapulco was never a place of any importance. In 1748 it was described by Bowen as "being, except at the fair, a dirty, paltry town of two or three hundred thatched houses and hovels." In 1768 a French traveller, M. de Pages, called it "a miserable little place, though dignified with the name of a city," an epithet it still deserves.

In the golden days of Spain, the Castellan, or chief justice, received 20,000 dollars a year, besides all his perquisites and fees of office, which enabled the Spanish officials to return to their native country with large fortunes, whatever the salary might happen to be. This practice was so well known and acted upon so openly, that offices, even those with a mere nominal salary, were notoriously put up for sale, realizing great profits to the minister or his subordinates. In this very port of Acapulco the Cura's nominal income was only 180 dollars, yet he was in the habit of making 14,000 or 15,000 by means of fees. When such a state of things prevailed we can excuse much that is wrong in these unhappy countries.

The castle of San Carlos commands the harbour and

the town. Its ramparts and bastions make a fine appearance, and shed an air of grandeur over the place, which on landing is soon dissipated. The castle, though well and skilfully constructed, is itself commanded by the adjacent heights, and offered no resistance to the North Americans when they occupied all the ports of Mexico. But it was sufficiently strong for its day; the Indians on one side and the Buccaneers on the other were the only enemies Spain had to fear. The town is poor and miserable; there are two churches of no note, about thirty or forty houses, and a suburb of huts and reed hovels. Earthquakes have been numerous, and slight shocks are frequently felt.

In the harbour we found an Ecuador ship of 300 tons, a Hawaiian brig, a Mexican schooner, and five or six small coasters. The authorities were full of civility. The captain of the port spoke English fluently, and he as well as the Governor seemed anxious to efface every recollection of the unfortunate and blundering zeal of our friend Don Vicente Amaro.

On the night of the 17th of December, Willam Harris, one of our carpenters, lowered himself down from a main-deck port under the half-deck, and attempted to swim on shore. He had hardly got fifty yards off when he cried out for help. A boat was immediately despatched to render assistance, but it did not succeed in reaching him. Several sharks were cruizing round the ship, and it is probable that they tore him to pieces and devoured him. On the following day we tried our utmost to recover the body, by creeping for it, but not a particle could be found. It was a fearful end of a wretched life.

The poor unhappy man did not appear to possess a redeeming quality. In order to be exempted from work, he had, for nearly a twelvemonth, feigned to be crippled in his right arm, by checking the circulation of the blood; and so well had he succeeded, that even the surgeons were partially deceived. At last the fraud was discovered, and the impostor placed as prisoner under the half-deck, whence he endeavoured to effect his escape.

On the 19th we sailed from Acapulco, and crept along the shore at the rate of twenty or thirty miles a day. The lofty peaks of the mountains of Guatemala were in sight, and for many days we carried a chain of trigonometrical heights and distances. On Christmas-day we had a strong breeze from north-west, a Tehuantepic gale, as it is called. All our old sails were bent, and many split; the festivities were interfered with, and pies, puddings, pâtés, jellies, and soup, got ready for the occasion, made an *olla podrida* in the midshipman's berth. On the following day it cleared off; but the Herald lay to, while the Pandora ran, and thereby succeeded in reaching Panama a fortnight before us.

On the 1st of January, 1847, we sighted Cape Velas, well described in its name, the rocks being white and steep, and resembling the sails of a vessel. We were baffled there, as we had been all the voyage, with light winds and calms; and sighting Cape Blanco, Punta Giones, and Cagno Isle, we were, on the 11th, off Montuoso, a wooded island, standing almost by itself in the midst of the ocean. Coyba, or Quibo, and Quicara were in sight at night. The former used to be a favourite resort of the Buccaneers, on account of the water and

wood to be procured there. Captain Belcher, however, when touching at the place in 1837, was unable to find a watering place. In an island of such size, many streams may have been overlooked; in our own survey in 1848 and -49 abundance of water was discovered. Quicara differs in aspect from Coyba, being as rugged and steep as the other is wooded and luxuriant.

Since leaving San Francisco, until off the Bay of Panama, we had been in sight of land, thus coasting nearly 2500 miles. On the 15th of January however we saw nothing but the sky and water; but our proximity to Panama was sufficiently evinced by the appearance of buques, large canoes with set square sails, which perform coasting voyages of some distance. On the 16th we were off the island of Galera, its umbrella-tree (probably some *Sterculiacea*) standing up like a beacon to warn the navigator of the proximity of the dangerous shoal of San Jose. The Punta de Cocos, the south extreme of San Miguel Island, is crowned with a most flourishing tree, which covers it in a remarkable manner. It is a curious coincidence, that one of the passages to Panama should thus be pointed out by two trees so extraordinary in shape. On entering the Bay of Panama strong tides are felt, as may be imagined from the fact of the rise and fall being, in high spring-tides, at the city of Panama, twenty-one feet. We experienced them in their full strength; the ship, though going two and a half knots, appeared to stand still.

On the 17th the breeze freshened up into a northerly wind, bringing clear weather. We seemed to rush past the northernmost of the Pearl Islands,—San Bartolome

with its cocoa-nut palms, and Saboga and Pacheque with their bright sandy beaches and piles of pearl oyster shells. We sighted the tree on Chepillo Island, another remarkable beacon in the bay, and before sunset anchored off Flaminco Island, the tower of Panama Viejo bearing N. 5° E., and the cathedral of the city of Panama N. 53° W.

CHAPTER X.

Survey of the western coast of Nueva Granada—Return to Panama—Departure for Peru—Coyba—Iguana Island—Payta—Callao—Viscount d'Ozery—Lima—Payta—Journey through the desert—Piura—Travelling in the interior.

On the 26th of January, 1847, we left the Port of Perico, to commence surveying the Bay of Panama, and until the end of April we were employed in sounding, taking angles and sights, working out the observations, and laying down the results on charts. Hydrographical surveys are always tedious and laborious, but they are peculiarly so on a coast like that of New Granada, where heavy showers of rain are followed by the sudden appearance of the sun, and noxious vapours which such a change produces; where muddy mangrove-swamps, swarming with alligators and generating unhealthy miasmata, line the shores for miles together; where in some places mosquitoes are so numerous, that the surveyor requires more than human patience to endure the stings to which he is subjected; and where the nights are often so hot and oppressive, that sleep is

sought in vain. A chart may seem to be very simple to those who are not aware of the skill, diligence, and expense required to complete it; but those who have watched its progress, and the amount of labour required to finish even a small piece of such a delineation, look upon it with different eyes, and are able to appreciate the vast treasures which the Hydrographical Office, by its publications, is constantly offering to the public.

We carried on the surveying operations along the coast of Panama and Darien, until the rains, towards the end of April, began to be so incessant that we were compelled to discontinue our task, and go back to Panama road. On the 21st of April, H.M.St.S. Sampson, with Rear-Admiral Sir George Seymour, arrived from Callao. On the following day we saluted the flag of Nueva Granada with twenty-one guns. The Republic returned the compliment, and Don Tomas Herrera, who was at that time Governor of the province of Panama, gave a ball in honour of the Admiral and Captain Kellett's expedition; indeed, there was a great deal of good feeling manifested by the inhabitants. At the ball all the "belles" of the city were assembled; there was a profusion of pearls on that occasion, the ladies being generally well supplied with that article, pearl-fishing having been pursued on the coast ever since the discovery of the Pacific Ocean. Most of the Panamian ladies have handsome countenances, regular features, dark sparkling eyes, and fine black hair. Their figure, however, is generally defective: being in the habit of having their dresses open behind when at home, and not wearing any stays, they have no waist, and do not look

well in ball costume. The dances performed were mostly slow waltzes, contradances, and quadrilles, polkas and gallops being too heating in such a climate as that of Panama. Towards the end of the festivity we were entertained by the introduction of the "*punta*," a dance performed only by a single pair, and being a great favourite among the negroes and zamboes, but now almost proscribed in refined circles,—which, by the bye, from its frivolous tendency, is not to be regretted: of course it was only shown to us in order to give us a notion of one of the "*costumbres del pays*."

On the last day of April we departed from Panama, towed by the Sampson, and on the 1st of May anchored off the island of Coyba, coast of Veraguas, for the purpose of watering and wooding. Some of the carpenters of the steamer were blinded for several days at this place, from having cut down Manzanilla-trees (*Hippomane Mancinella*, Linn.), and got some of the poisonous milk of that plant into their eyes. Not being aware that salt water is an efficacious remedy, they had to suffer very great pain. A boat's crew of the Herald, when surveying on the coast of Darien, had the same misfortune from having lighted a fire with the branches; and I myself, I may mention, having gathered specimens of the tree for the herbarium, lost my sight for more than a day, and had to endure a smarting of the most acute nature, coupled with the fearful thought that I was never to see daylight again.

On the 6th of May we sailed, touching at Iguana Island, near Punta Mala, where we were joined by the Pandora, and then directed our course southwards, to

Peru. After beating against baffling winds, we reached Payta, and, having remained there two days, we continued our voyage and on the 28th of June anchored in the port of Callao, where H.M.S. Collingwood was met with. This part of the passage is most tedious, and the viceroys and high dignitaries during the old Spanish rule were well aware of it; for when coming from Panama, they always disembarked at Payta, and performed the journey to Lima by land: a road leading through a desert was preferred to calms and contrary winds.

The Peruvian newspapers were filled with accounts of a frightful murder which had been committed on the person of the French Viscount d'Ozery, who was exploring the interior of Peru. It appears that he embarked in the village of Bellavista, province of Jaen, accompanied by four native guides. When at a place called Puerto de Yusamaro, on the Marañon, one of the guides stabbed him with a dirk. The unhappy victim instantly fell to the ground, but, not being quite dead, another of the treacherous guides inflicted upon him the final blows. The four then divided the property and valuables amongst themselves, and returned to their village, saying that the Viscount had been slain by the hands of the Gebaros, a savage tribe of Indians. However, suspicion soon arose, a legal investigation took place, and the crime was traced to those who perpetrated it. Two of the guides were sentenced to suffer the extreme penalty of the law, and the others, who had had no active part in the foul deed, were condemned to imprisonment. Considering that the life taken was that of

a foreigner,—that great tracts of country still in the possession of wild Indians, over which the Republic has no control, had to be explored to ascertain the fate of the traveller,—and that the complicated nature of the case rendered its investigation extremely difficult, great praise is due to the Peruvian Government for the pains it took in bringing the offenders to justice.

During our stay, the ship's company of the Herald obtained "liberty," and the officers amused themselves as well as they could, playing cricket, riding on horseback, going to Lima, and seeing everything that was to be seen. There were no bull-fights at this season, but the theatre was open, and Victor Hugo's "highly successful drama," as an English manager would say, was repeated several times. The play-house is about the size of the Adelphi theatre in London, but very dirty, and so full of fleas that a person has to take a more than ordinary interest in the performance to disregard the irritating operations to which he is exposed. It is almost as amusing to watch the movements of the audience as it is those of the actors. In the last two or three years, however, some improvements have been made, and an Italian opera company has been engaged to give variety to the Lima "season," and perform the masterpieces of their native land; for whatever our northern critics may say about the lyric dramas of the Italians, people of the south do enjoy them more than the classical compositions. Light music and light reading is what they admire. That thought and recreation, study and pleasure, may be coupled together, and even constitute one of the purest enjoyments of northern

nations, is a fact which but few of them are able to understand.

On the 23rd of July, 1847, H.M.S. Herald left the harbour of Callao, and reached Payta in five days, thus speedily accomplishing a distance which, in going down, had occupied her more than three weeks. Payta was all bustle and festivity. It was the 28th of July, the anniversary of Peruvian independence. Twenty-seven years had elapsed since General San Martin obtained possession of Lima, and proclaimed that Peru and Spain were no longer governed by the same head. The independence however was not finally secured until December 1824, when General Sucre defeated the Spanish forces at the battle of Ayacucho. The contest was then virtually concluded, though General Rodil held the Castle of Callao until the beginning of 1826. The fall of Callao deprived Spain of every inch of ground in the continent of America. Her policy, to secure to selfish and grasping officials the sole use and benefit of those magnificent regions, by excluding all foreigners and oppressing the children of the soil to an intolerable degree, was at an end, and she herself was lost, paralysed, and decayed through the very means which she used for self-aggrandisement; while the countries so long subject to her misrule, though paying dearly for experience and undergoing severe trials in striving for liberty, are looking on a much brighter future than that dawning on the Peninsula.

Payta owes its origin to the invasion of Pizarro, having been built as early as 1531. It soon attained a considerable degree of prosperity, on account of which, and in

consequence of it's exposed situation, it was peculiarly open to predatory attacks. The first sack was made on the 26th of May, 1557, by Sir Thomas Cavendish, who found it "a neat, well-built place, of about two hundred houses," and left it, alas! a heap of smoking ruins. The next attack took place on the 2nd of November, 1604, under Captain Swan, in the Cygnet, of sixteen guns and 140 men, and the Bachelor's Delight, a fine vessel of thirty-six guns. By this descent the town was again burnt, after an offer by the rover to leave it unmolested if the inhabitants would ransom it with 3000 lbs. of flour, 300 lbs. of sugar, 25 jars of wine, and 1000 jars of water, had been rejected. Another attack was made by Captain George Shelvocke, in the Speedwell, a vessel of twenty guns and 130 or 140 men. The ship, on the 21st of March, 1720, hove-to off the Peña Horadado, a remarkable rock about four miles from the port, when Shelvocke landed in his boats with sixty or seventy men. Finding the town deserted, and the Spaniards refusing to ransom it for 1000 dollars, "it was burnt to the ground by way of farewell." While the greater part of the crew were engaged in shipping off all convenient moveables, a Spanish ship of fifty guns came into the bay; but the master, although he had only fifty men on board, gallantly engaged and beat her off. The next misfortune of the devoted town was brought about by more dignified actors. Commodore George Anson, in H.B.M.S. Centurion, attacked Payta on the 12th of November, 1741; he appears to have occupied three days in shipping off all he could get,—boat-loads of hogs, fowls, and other refreshments, besides money and

jewels. The burning of the place seems to have been wanton and unnecessary, but it was a custom which is only now beginning to disappear.

At present Payta is the most frequented seaport in northern Peru. Its climate is healthy, its harbour secure, its inhabitants hospitable; but beauties as a town it has none, and of charms of situation it is destitute. It stands at the foot of a ridge of barren and desolate-looking mountains. The houses are about eight hundred in number, and built of bamboos and mud, and are, with a few exceptions, only one story high. The streets are narrow, irregular, and unpaved, the principal ones running from east to west. There are two churches, both dedicated to the rites of Roman Catholic worship. The only public square is the market-place. Wood being scarce, earthquakes frequent, and labour dear, all the public edifices are small, and undeserving of special description. The number of inhabitants is stated to be about 3000; they are chiefly of Indian descent; whites, negroes, and the various shades produced by their intermixture are few. Since the Peruvian independence, several English merchants, who devote their attention principally to the Quina trade, have taken up their residence there.

The country adjacent being a desert, there are but few articles to be obtained at Payta. Salt, a product of Colan, is one of the chief exports: being of superior quality, and cheap, it is much disposed of to southern Peru, and also smuggled in considerable quantities into Ecuador, where salt forms one of the Government monopolies. Wood and water, the most necessary wants of shipping, are scarce; the latter is brought on donkeys

from Chira, a river about twelve or fourteen miles distant; intentions are however entertained of boring Artesian wells in different places on the Peruvian coast, which, if carried into execution, will prove most beneficial. Goats, poultry, potatoes, camotes, yucas, yams, and Indian corn are brought from the interior, and are always to be had at a cheap rate. Sea-fish of a delicious flavour is caught in great variety, and appears to be the only eatable that Nature has dealt out with a bountiful hand to the place.

The Herald was to proceed from Payta to Guayaquil, in order to survey the river; and as that operation would employ the vessel several months, an opportunity was afforded to carry out a favourite idea of mine—exploring a part of the interior of South America. I intended to start from Payta, visit the towns of Piura, Loja, Cuenca, Riobamba, and Quito, and rejoin the Herald at Guayaquil; the views of Captain Kellett fortunately coincided with my own, and he permitted my friend Bedford Pim to accompany me. In making preparations for our departure, we were assisted by Mr. Higginson, the British Vice-consul, who kindly procured the necessary passports, mules, and guides.

On the 29th we departed. It was late in the afternoon when we reached the top of the mountain-ridge surrounding the town. We stopped a moment to take a last look at the place. Payta was as gay as on the previous day: music, dancing, and festivity were still kept up, flags were waving, and boats plying in the harbour. But what a difference when we turned towards our destination! A region of sand, a country without water,

a dreary wilderness met our view. We stood at the entrance of the desert, a tract of land extending over twenty-five degrees of latitude—more than fifteen hundred miles.

Our mules seemed to know that we were proceeding towards Piura, their home; for notwithstanding the deep sand, they walked at a steady pace and without stopping till eleven o'clock, when we saw a light, and shortly after came to an inn. The building was surrounded by several hundred mules and donkeys. The animals were feeding; the muleteers either sleeping, wrapt up in their ponchos, or sitting together in groups, chatting and smoking. The landlord, who seemed to have been roused from sleep, conducted us into a clean apartment, certainly one of the most respectable-looking we met with in Peru. Our supper, consisting of omelet, tasajo, and coffee, was soon got ready; and while we were eating, the landlord entertained us, telling us that his was the half-way house, the only house between Payta and Piura, and that we should have to ride from six to seven hours before we could reach the town; then, turning more to his private affairs, he explained how great were the difficulties in bringing food and water to the inn, and how considerable the expenses which such a transportation caused.

Having to wait for the rising of the moon before the journey could be resumed, and being exhausted by our preparations for starting and by the long ride, we did not keep awake long after supper, but lay down without undressing, and slept till one of the guides aroused us. We mounted our animals, and in a few minutes

had left the inn behind us. Most of the muleteers had the start of us, but ere long we came up with them, and proceeding to the same destination we soon became friends. Their songs, the many little anecdotes they told, and the numerous questions which we had to answer, all tended to shorten the night, and to make the journey less tiresome; still the ride was far from agreeable —the cold was acutely felt, and when dawn commenced our teeth were chattering violently. Luckily the dawn in the tropics is of short duration. The sun soon rose, and diffused a more genial temperature; but what a landscape did it illumine! As far as the eye could reach nothing was seen save a greyish sand and a few Algaroba-trees. Skeletons of animals, fallen victims to thirst and fatigue, were scattered about. The road was indicated at short distances by high poles, and wound along amidst mounds of shifting sand, the much-dreaded Medanos, the tombs of so many travellers.

Both ourselves and the mules began to get tired. The poor beasts besides seemed to suffer greatly from thirst; now and then they took a mouthful of sand, probably to quench the thirst by collecting the saliva. We were therefore delighted to behold towards eight o'clock the towers of Piura, and to stand half an hour later at the entrance of the town. Our clothes were thickly covered with dust, and whilst we were cleaning them the guides offered up prayers to the patron of the road, whose effigy we saw standing amidst a group of trees. Sending one of the men to Don Narciso Espinosa with a letter of introduction, we proceeded to the rancho of the guides. The messenger soon returned, stating that the gentleman

to whom we had been recommended was still asleep, but that his wife had taken the letter and promised to deliver it instantly. About an hour after Don Narciso arrived; he excused himself for coming so late, and informed us that from want of room he was unable to receive us into his house, but that he had procured lodgings for us at the residence of a friend. The owner of the house to which we were conducted received us kindly; he proved to be a gentleman from Lima, who had come to Piura to get cured of rheumatism, a disease for which the climate and the sand-hills of the neighbourhood are said to be excellent remedies. The patients are buried for nine days in the hot sand of the desert, with all save their heads covered, and afterwards have to lie in bed an equal space of time, constantly drinking decoctions of sarsparilla.

Our intention was to leave Piura as soon as possible, in order to penetrate further into the interior. We made a bargain for mules and donkeys to carry us as far as Sarsaranga, the first village in Ecuador; and submitted our passports to the sub-prefect of the province, Don Manuel Cañote. The official, however, treated us most uncivilly, telling us in vehement language that the document we carried was merely intended from Peru, and that, if we wanted to go to Ecuador, we should have to get another passport, the cost of which would be three dollars. Vexing as it was to have to give three dollars for a piece of paper that would neither further our object nor indentify our persons, we had to pay.

Having finished our arrangements we intended to leave on the 2nd of August, early in the morning. At

the appointed hour we had our boxes packed, our spurs put on, and everything got in readiness. But we had to wait till the afternoon, when the oldest of the guides arrived, trying to make a long face, and reporting that the mules had been in his court-yard, but that during the night several had escaped, and that hitherto his exertions to catch them had been unsuccessful. Having in accordance with the custom of the country paid in advance the whole sum for the hiring of the beasts, no alternative was left but to wait. To be entirely in the hands of these people is one of the greatest annoyances of South American travelling. Threats are of no avail, kindness is lost upon them, and paying in advance deprives the traveller of every check which otherwise he might exercise on their conduct. Buying animals is equally disadvantageous: unless the beasts belong to the muleteers, they pay no attention to them; the food, whenever a chance presents itself, is withheld and sold, and it not unfrequently happens that during the night the animals change masters.

At first we were at a loss to account for the sudden reluctance of our guides to proceed, but the truth was soon revealed. For some time the vicinity of Piura had been disturbed by a band of robbers; several murders had been committed, and on the very day our departure was to have taken place two people had been killed. Various stories were in circulation. It was said that a woman possessed of great courage was the chief of the band; and other statements equally singular passed from mouth to mouth. Detachments of soldiers had been sent in pursuit of the peace-disturbers, but had hitherto

been unsuccessful; in fine, Piura was in a state of excitement, and it was evident that so long as it lasted our mules would not be caught.

The stay thus enforced enabled us to make acquaintance with various persons, and from their conversation as well as from our own observation we obtained a tolerable knowledge of Piura and its vicinity. Piura, —or San Miguel de Piura, as its name at full length is written,—was the first settlement made by the Spaniards after their entry into the country, and the first place where a Christian church was erected. The position however of this early colony was not at the spot at present occupied by the town, but a few miles distant, the site having been changed on account of the climate. Piura is the capital of a province of the same name, and the largest town in northern Peru, standing on the left bank of the river Piura. The best houses are in the centre of the town; they are mostly one story high, built of adobes, and, agreeably to a law, white-washed; their internal arrangements are similar to those observed in Lima, with verandas and pateos. The outer portion of the town consists of mere huts (*ranchos*), the habitations of the poorer classes and Indians. The streets are small, irregular, and unpaved. In the centre of the town is the Plaza, with a statue of Liberty; two churches, Matriz and Belen, the town hall, the Government offices, and several private buildings form the sides of the square. Besides the two churches mentioned, there are five others. Near one of them is a college, which was opened in 1846, and had at the time of our visit about a hundred and twenty pupils; Latin, Spanish grammar, and natural

philosophy are the branches of learning taught in the establishment. There are also several preparatory schools, and in some of them it is customary to give eggs instead of paying money.

The number of inhabitants is said to amount to 10,000. About a tenth part of them are whites, hardly a tenth negroes, and the rest Indians; their vernacular language is Spanish, but the Quichua is also understood. In civilization the Piurans are not so far behind as might have been expected from a people who live in a desert. Every week there appears a newspaper, 'El Vijia,' which contains the political news not only of Peru and South America, but also those of every part of the world. In drawing and painting many of them are very skilful, and we met a young man, Luis Montero, who, though he had never left Piura, nor received any instruction except from his own townspeople, painted in a masterly style. Music is much practised, and in walking through the streets in the evening the number of pianos heard is striking. Keeping up the communication between the coast and the interior is the chief occupation of the inhabitants. The rearing of goats, and the cultivation of cotton on the banks of the river, are other sources of employment. Agriculture on a large scale is not practised, the nature of the climate, the sandy soil, and the want of water being unfavourable to it.

The river on which the town is built has only sufficient water as long as the rains in the Andes continue; whenever they cease it begins to diminish, and not unfrequently dries up altogether. In Piura itself rain does not fall sometimes for seven or eight years, a thick mist

or an occasional drizzling being the only substitutes. That it never rains in the Peruvian desert is one of those fanciful notions so frequently met with in the accounts of the old travellers. On the contrary, sometimes in the month of February the clouds pour down immense masses of water. In 1834 the showers were so violent, and followed each other in such quick succession, that mounds had to be raised in the streets of Piura to keep the water out of the houses; some of these mounds are still to be seen. The effect which such a rain produces on the desert is said to be wonderful: everywhere vegetation appears; everywhere water-melons, Indian corn, and numerous grasses spring up; and food becomes so plentiful, that the Indians of the mountains are for a time compelled to leave off bringing supplies.

The vicinity of Piura is a flat country, only varied here and there by mounds of shifting sand (*medanos*). Like the greater portion, or perhaps the whole, of the Peruvian coast, it seems to have been at one period below the level of the ocean, and only to have been elevated to its present position in modern times. Numbers of shells, intermixed with the sand, and belonging to species still inhabiting the adjacent sea, the preponderance of saline matter, and the occurrence of littoral plants, such as *Prosopis horrida*, *Varronia rotundifolia*, *Capparis scabrida*, and *C. avicenniæfolia*, are in favour of the supposition.

From the nature of the country, it cannot be expected that the flora and fauna* should be well represented.

* See an excellent account of the animals in Tschudi's 'Untersuchungen über die Fauna Peruana.'

There are only five species of plants that form wood. The largest and most common is the Algaroba (*Prosopis horrida*, Willd.), a tree the beans of which furnish subsistence for mules, donkeys, and goats. The Overal (*Varronia rotundifolia*, DC.) is a large bushy shrub, yielding a berry which fattens cattle and poultry. The physical circumstances under which these plants grow being similar to those existing in Ascension, and their fruits highly useful, I have recommended their introduction into that island. The Zapote de perro (*Capparis scabrida*, H. B. et K.) and *Capparis crotonoides*, H. B. et K., are woody plants, very common, but without known use, and not even touched by animals. The Yierba blanca (*Teleianthera Peruviana*, Moq.), a whitish herb, creeping on the sand, is, in the absence of better fodder, given to cattle. When Cactuses, Aloes, and other succulent forms are met with in arid places, it seems natural, and we can account for it; but when such as the Algaroba, Zapote de perro, and Visacha, plants of a dry woody texture, are found in a region deprived of rain sometimes for years, it must ever be a matter of surprise.

On the banks of the river vegetation is more luxuriant. The Algaroba-trees attain a height of from thirty to forty feet, growing with the Peruvian willow (*Salix falcata*, H. B. ?), and forming thickets inhabited by parrots, carpinteros, putitas (*Myoarchus coronatus*, Cab.), and other birds. Almost every spot is cultivated either with the shrubby cotton-plant, or maize, water-melons, plantains, sweet-potatoes, cassava-root, and bird's-eye pepper. All the productions of the district, as well as those brought

from the mountains, are every morning at sunrise exposed for sale,—on week-days in the Plaza, on Sundays in the Plazuella de la Restauracion.

Near Piura are numerous tombs of the ancient Peruvians, which for the sake of gain are frequently opened, especially on Good Friday, which, according to popular belief, is a lucky day. The objects met with are dried-up bodies and earthen vessels; gold is seldom found. The vessels are neatly made, and generally have whistles, which either produce a sound when blown, or when the vessel is filled with water. One of the latter obtained by us imitated the voice of the turkey-buzzard in an extraordinary degree; another vessel, representing a number of Indians carrying a corpse, was shown to us, which, on being filled with liquid and moved, caused a sound similar to that of a body of men crying. Specimens of this pottery are frequently sent to Europe; but, as is the case with ancient Roman coins, the demand for them is so great, that imitations are passed off for genuine ones.

On the 4th of August the soldiers returned, bringing several robbers, and, strange to relate, our guides and animals shortly after made their appearance. Having everything in readiness, we started at once. It was pleasant to see the little caravan trotting along: eight donkeys, carrying water-flasks, provisions, and fodder, opened the train, two mules loaded with travelling necessaries followed, while the guides and ourselves brought up the rear. The road led for the most part along the banks of the Piura, and was for the first few leagues most monotonous. By degrees the country became undulating, the Algaroba-trees attained a greater height, and occa-

sionally a scarlet parasitic plant (*Loranthus*) was seen in their branches; and here and there arose some tall Cactuses, which, though little calculated to enliven the landscape, were hailed with delight as friends in adversity, their fleshy stems supplying both food and water to the beasts.

Towards evening we reached La Peñete, a collection of huts chiefly inhabited by goatherds. The guides took us to the house of their relation, a Limenian, who evinced much joy in hearing news from her native town. After supper she treated us with rover stories, and inspired our people with such horror that they could hardly be persuaded to move from our sides. Having on the following day to pass the district in which the scenes related had taken place, the information was not disregarded by us: we loaded our arms, and made every preparation to repulse attacks. In La Peñete however nothing occurred. We started early the next morning, and, before the sun's rays had obtained any power, travelled over a considerable piece of ground. The road, or path, as properly speaking it must be termed, ascended slightly; the soil changed from a loose sand into a hard clay, and several river-beds, though empty, showed that we had reached a region more subject to rain and moisture than that left behind.

After riding the whole day without meeting any water, and being almost suffocated by heat and dust, we were delighted to arrive towards evening at the banks of the Siupira. Having crossed the river, we met a woman who invited us to stay the night in her house. She proved to be a widow, and the proprietor of El Parco,

a little farm. The building to which we were conducted stood on an eminence, and was like all those of the district,—the greater portion was a mere shed, with a flat roof loosely thatched with straw of Indian corn. The walls were made of sticks arranged close to each other, but the sticks being all crooked—the country not producing any straight ones—the whole had an irregular and untidy appearance. The after part of the house consisted of one large room, and was more substantially built, having a tiled roof, a door, and windows, and being furnished with beds, a table, and a few chairs. The kitchen was in a side wing, and as rude as the rest of the establishment. The fire-place was on the floor, and a few pots and gourd-shells were all the cooking utensils that could be seen.

While my companion was making a place to sleep upon—bed it could not be called,—I prepared the supper. The hostess and her daughter, a nice girl of about sixteen years of age, assisted. When the meal was ready we invited them to partake of it, but they could not be persuaded; indeed the South Americans consider it an impropriety to eat with a guest who has just come from a journey, thinking that in doing so he would restrain himself, and not eat heartily. Having on the following morning refreshed ourselves with a bath and taken breakfast, we departed. The country began to get more woody, and groups of Cactuses, both *Melocacti* and *Cerei*, were passed: the latter formed trees from thirty to forty feet high, and their wood was as hard as ebony. Goats and sheep became more numerous, and bullocks were occasionally met with. At noon we rested for about an hour in

the shade of a tree, and towards sunset reached the river Quiros. The banks were lined with willows, and the bed about a hundred yards across. Close by was a hut, the most miserable and filthy we had as yet met with. Mosquitoes and sandflies were so numerous that we had always to surround ourselves with smoke to avoid their irritating operations. The inhabitants were extremely poor, and could not spare either food for ourselves or fodder for the animals. A few Algaroba beans were given to the latter, and we managed to scrape together the remnants of our provisions, and made a kind of stew, consisting of rice, some potatoes, cheese, a crust of bread, and a slice of tasajo: bad as was the mixture, it was made worse by being burnt.

The people we were staying with looked very suspicious, and caused us to be on our guard. An occurrence during the night justified our apprehensions. About one o'clock somebody entered the apartment, and slowly advanced towards the corner in which we were lying. Thinking that we were asleep, the person stretched out his hand across our bodies to take hold of our guns. Being kept awake by mosquitoes, I observed every movement, and just when the robbery was to be committed I jumped up and drew my dirk; but before Pim awoke, or I could lay hold of the arm, the person had escaped. At first we thought some robber had come into the house; when however we heard our host and hostess whispering together, we entertained little doubt that they themselves had first attempted to steal our guns, and probably afterwards intended to kill us with them. Sleep for the rest of the night had fled. We awaited the dawn

with anxiety, and it was still dark when we continued our march. We passed Suya and Las Pampas de Chirina, but in neither of these places could any provisions be obtained. About noon we came to a farm, and although quantities of fodder were lying in the court-yard the proprietor could not be induced to dispose of any. The beasts were now quite exhausted, and the greatest exertions had to be used to drive them on. At last we gained the Macara, the river which separates the Republics of Peru and Ecuador, and without difficulty we crossed over to the opposite side.

CHAPTER XI.

Republic of Ecuador—Hacienda of Soviango—Sasaranga—Tambo of Colosacapi—Cariamango—Gonzanama—River Catamayo—Arrival in Loja—Mr. Pim's Journey to Piscobamba.

We halted under some willows, and observed with delight the animals feeding upon the fine grass with which the banks were clad. We ourselves were not so fortunate as to obtain any food: the trees around us bore no eatable fruit, and though we applied ourselves assiduously to find some nutritious root, our botanical researches were unproductive, and we had to content ourselves with the hope of arriving in the evening at the hacienda of Soviango. After stopping two hours our journey was continued. There was a great improvement in the aspect of the country: hills had changed into mountains, arid plains into well-watered valleys, and groups of crippled trees had been superseded by shady forests. In the expectation however of reaching Soviango we were disappointed: the beasts were too fatigued with the march through the desert to make much progress, and ere long we were benighted, and compelled to bivouac on the top of a

mountain. The provisions left consisted of two plantains and some coffee,—small allowance indeed for four persons who have been travelling all day, and, what is worse, been disappointed in obtaining supplies. Having on the previous night burned the meal, my companion did not permit me to show my culinary acquirements: he himself undertook to roast the plantains and boil the coffee. In the very outset however he met with obstacles: as it was dark, and the ground around the camp steep and rocky, no water could be found, and the little left in the gourd-flask was not sufficient; still he used it, put in the coffee, and in order to make the beverage, as he said, strong and good, it had to boil up three times. Twice the pot was drawn back at the proper moment, but when the experiment was repeated he forgot to protect his finger when touching the handle,—he burnt himself, the vessel dropped, and the coffee flowed on the ground. The accident would have been amusing had we possessed any other beverage, but, having nothing to quench our thirst, it was rather vexing. After supper —*i. e.* after the two plantains had been consumed— we slung our hammocks between some trees, while the guides lay down close to the fire. However, none of us slept much: an empty stomach is the most impatient creditor existing, who, after once making a call, is not quieted until the whole, or at least the greater portion, of the debt due to him has been paid.

We started at daylight, but it was not until we had travelled seven hours that we reached Soviango, an estate surrounded by sugar plantations and standing on an eminence. Our approach had apparently been observed:

at the principal building we were met by two ladies, one of whom proved to be the proprietress of the estate, and begged us to put up in the house. Plenty of Indian corn and Guinea-grass was given to the beasts, and a breakfast immediately got ready for us. The meal was nearly concluded, and we were beginning to feel comfortable, when a cry of fire arose. All rushed into the court-yard: behind the sugar-mill a dense smoke was ascending—the plantations had caught fire. The whole estate was in an uproar; the labourers were seen running down the hill, and the voice of the major-domo was heard giving orders. We followed the ladies behind the mill, where a lamentable spectacle presented itself: several fields had already been reduced to ashes, and the flame, assisted by a strong breeze, was making rapid progress. The fire had hardly touched a field when the cane made a noise like musketry and flew up into the air. The workmen, armed with sticks, tried to knock it out, but their exertions were of no avail; at last the flame reached a rivulet, and expired for want of combustibles.

The damage done was considerable, but the ladies did not seem to be affected by it, being as cheerful as before; their only anxiety was, whether any one had been hurt. When observing our preparations for starting, they begged us to remain. To these tempting solicitations we could not accede: intending to visit Quito, and being still a a great distance from that capital, every hour was of importance. We therefore took our leave, thanking the ladies for the hospitable treatment they had bestowed upon us.

We now commenced ascending the principal chain of

the Andes. The temperature became lower, the air purer, and the vegetable and animal kingdoms displayed the most diversified forms. Yellow *Calceolarias* were growing amidst scarlet *Salvias* and blue *Browallias;* humming-birds were resting on the twigs of *Fuchsias;* butterflies and beetles were swarming about, while little black snakes leaped dexterously among the stones. What a profusion of life! what a contrast of colours! Really the aspect of a tropical forest is grand; but that of the Andes a few thousand feet above the sea is beautiful—the whole seems a garden.

Having gained the summit of the mountains separating Soviango from Sasaranga, a fine view broke upon us: on one side we beheld the estate, with its sugar-fields of the most vivid green, charmingly contrasting with the roads, streams, and habitations; on the other, Sasaranga, a village of about fifty houses, and a neat-looking church. The road was one continued zigzag, and it took us about an hour to descend. The habitations in the village being very small, we were compelled to put up at the Cabildo (town-house), a building containing the prison and two large rooms.

We were forced to remain a day at Sasaranga, our Peruvian muleteers having left us, and fresh animals not having been caught. The mode of travelling in Ecuador is peculiar. On the principal roads, at every six or eight leagues, there are *tambos*—buildings for the reception of travellers; at each of them a *tambero*, or innkeeper, is stationed, who is appointed by Government, and whose duty is to assist in loading and unloading, to fetch fuel, water, and provisions, and procure animals for the

journey, and a cook,—for his trouble he receives one real a day from each party, and the cook half a real. The price for each animal, whether horse or mule, is four reals from one *tambo* to another. While in Ecuador we always availed ourselves of this institution, and, although in many places great disorder and slowness prevails, it proved on the whole highly advantageous. The *tambos* originated in the time of the Incas; they were the post-stages where the royal messengers met and delivered to each other the mysterious *quipos*. The communication was at that time so well kept up, that the kings, at their table at Cuzco, had fish fresh from the sea daily. The descendants of these messengers are still pointed out, and we have had occasion to observe the swiftness with which some of them would keep pace with our animals for leagues together.

On the 9th of August the mules arrived, and we proceeded to adjust our boxes on their backs, but felt the loss of our skilful Peruvians most severely, as we were nearly half an hour getting ready what they did in ten minutes. Our new guides stood by quite coolly, and did not display the slightest wish to assist us. At last we started for the *tambo* of Colosacapi: although the distance is only six leagues, yet, our boxes continually slipping off, we did not reach our destination until late. A large caravan of mules laden with Quina-bark from Loja was arriving at the same time. Each mule carried two bales, from two and a half to three feet long, and a foot and a half broad. The *tambo* was a wretched place,—full of holes, very dirty, and the floor covered with cowdung and other filth. A fire was made, but

there being no chimney, we had to suffer from the smoke all night. The *tambera,* an old woman, very thin and lean, made her appearance; she was accompanied by her dog, which had all its bones sticking out, looking equally miserable. She at once proceeded to cook some soup for us: water was first coloured with some browned onions, and then some Indian corn and a few eggs thrown in, one egg to a pint of water. This mixture, with a fair allowance of dirt, was, it need scarcely be added, very weak, but hungry travellers, who could get nothing else, had to be content.

The next morning there was nobody near the place, save the old woman, who informed us that the people had gone out for our beasts of burden. At noon, finding that no one appeared, we ourselves went out and managed to catch three mules; an additional one was brought in soon after, and at four o'clock we left for Cariamango, accompanied by two Indian guides, who were as stupid as our former ones. It was with great difficulty that we induced them to start, as a thick fog was coming on and the wind began to get up. Notwithstanding this we departed, but were unable to travel more than two leagues, and were obliged to put up at a rancho which we were fortunate enough to fall in with. The hostess, an Indian woman, was in very bad humour, and professed to have no food of any kind to spare. Her daughter however was otherwise disposed, and, when her mother was absent, pointed out a nice goat just killed, and also the place where the potatoes and the maize were kept. When the mistress of the house returned, she could no longer refuse to sell us sufficient to

make a supper of, which in some measure made up for the bad fare of the previous day.

After leaving the rancho, the country became very varied,—woods, hills, and some beautiful valleys in a state of cultivation; there were however but few inhabitants, as was indeed the case along the whole of our road. Late in the afternoon we reached Cariamango, seven leagues from Colisacapi, where we were lodged in the Cabildo. Cariamango is built on a plain, and consists of about a hundred houses, most of which have tiled roofs. It is surrounded by mountains, covered with Quina-forests, which are the property of the village, and from which any one may collect as much as he pleases; the Quina however is of inferior quality, and sells on the spot for from sixteen to eighteen reals the aroba. To the northward of the village there is a remarkable mountain rising like a pillar into the clouds, and having a large cross on the top, which, on high festivals, is visited by religious processions.

Our next stage was Gonzanama, a village of about fifty houses, including a church and a chapel, and situated at the foot of the Cerro de Columbo. The neighbourhood would appear to afford great inducement for settling, being clear of trees, having an excellent soil, well watered by numerous streams, and producing peas, beans, potatoes, wheat, and other vegetables commonly grown in northern Europe, besides those peculiar to the Andes. The climate is delightful; during our stay the thermometer did not rise higher than 67° Fahr. The wet season lasts from November until the middle of May, but during the other months showers are occasionally experienced.

The only complaint made by the inhabitants is of the strong gales of wind, which now and then blow off the roofs of the houses, and sometimes even throw down the buildings. The Quina-trees are abundant in the adjacent mountains; we also for the first time met with the Culen (*Psoralea glandulosa*, Linn.), a shrub about five feet high, with small bluish flowers, and growing in sunny places, on the roadsides, and on the whole Cordillera, from Chile to Quito: its leaves are used as a substitute for tea, but do not produce a very aromatic beverage.

There is no *cabildo* nor *tambo* at Gonzanama, but we did not experience any inconvenience on that account, as we were most hospitably received by Don Juan Cueva, the *teniente* of the place, who happened to be standing before his house, and invited us to stay with him. He was a gentlemanly person, and had a great predilection for the English,—so much so, that on leaving he wrote in our passports, which he, as chief authority, had to sign, that he had given us all the assistance in his power, and had done so the more readily as the Republic of Ecuador was so deeply indebted to Great Britain.

We stayed two days at Gonzanama. In the evenings our host entertained us with ghost stories, accounts of witches, and fairy tales; for the inhabitants of the Andes, like those of other mountainous regions, such as the Highlands of Scotland, the Hartz, and the Alps, have their superstitions, to which they cling with tenacity—a circumstance for which Sir Walter Scott has sufficiently accounted. His favourite subject however was the destruction of the town of Zamora. In the neighbourhood

of that place were some rich gold-mines; the Spaniards, not content with their produce, tried, by imposing heavy contributions upon the natives, to augment their treasures, until the Indians, unable to bear any longer the oppressive yoke, rose in defence of their liberty. The Spaniards taken were put to death, and the Governor and chief officials were forced to swallow liquid gold, in order that, as the enraged natives expressed themselves, they might at last be able to quench their thirst for that metal. Zamora itself was destroyed, and a heap of ruins indicates at present the spot where once stood one of the richest towns of Upper Peru. Herrera, the Spanish historian, mentions Zamora, and says that lumps of gold weighing four pounds had been found in the mines, and that even one piece of twelve pounds had been sent to the King of Spain. Even now it might be profitable to work these mines; but it appears that the Indians in the neighbourhood are so hostile, that no white man is permitted to enter their territory.

Don Juan Cueva also acted as judge, and on Sunday, after mass, several men were brought before him for fighting; he was engaged with the trials until five o'clock, and sentenced some to the stocks and others to be beaten. In the afternoon a great many people assembled in the Plaza, to have a game resembling cricket, but without the bat: the object was to knock down the three wickets, and at the same time to drive the ball as far as possible. The priest joined his parishioners, and appeared to enjoy himself very much. In the evening service was performed, when the images of the saints were paraded and fireworks displayed; music and dancing

were kept up nearly the whole night. We thought that the quantity of *chicha*, a beer made of Indian corn, that was drunk, tended to make the people rather more noisy than was consistent with the ceremony.

On the 16th of August we succeeded in procuring a couple of Indians sober enough to conduct us as far as Loja, and in the afternoon we left, much to the regret of the kind Don Juan Cueva. On the road, about a league from Gonzanama, we visited the ruins of a village built by the Incas, and situated in a plain. There was one large house, two hundred and fifty feet long and fifty feet in breadth, and standing east and west: the walls were three feet in thickness and built of stone; the doorways were six feet broad. Nothing was standing save the walls, and these were very low and decayed. The art of building arches was unknown to the ancient Peruvians; the roofs of the houses and those of the temples were thatched with straw, and could not long withstand the influence of the weather.

Not being able to reach any house for the night, we were obliged to bivouac under some berberry-bushes, and, after some difficulty, owing to the wetness of the wood, we managed to kindle a fire and prepare some supper. The night passed most unpleasantly; a drizzling rain soon made our ponchos and blankets wet through, and towards morning we were so cold and stiff that we could hardly move our limbs.

When we got up, the beasts—which, as is customary in Ecuador, had been let loose during the night to feed—had strayed, and it was not until after a couple of hours' search that our guides, with the assistance of another

Indian who was passing by, succeeded in finding them. After leaving the place, we descended into a hot valley, where the vegetation had the character of the lower tropical region, the thickets consisting of *Crotons*, Cactuses, Fig-trees, and shrubby *Convolvulaceæ*; on the whole there was little verdure, the effect of the dry season being everywhere visible. About noon we entered a forest, consisting of Chirimoya-trees (*Anona Cherimolia*, Mill.), which were loaded with delicious fruit. The Pine-apple, the Mangosteen, and the Chirimoya are considered the finest fruits in the world; I have tasted them in those localities in which they are supposed to attain their highest perfection,—the Pine-apple in Guayaquil, the Mangosteen in the Indian Archipelago, and the Chirimoya on the slopes of the Andes,—and if I were called upon to act the part of a Paris, I would without hesitation assign "the apple" to the Chirimoya; its taste indeed surpasses that of every other fruit, and Hänke was quite right when he called it a "masterpiece of nature."

Having rested ourselves half an hour in an Indian hut, and eaten a few eggs and plantains, we continued our march, crossing the river Catamayo, and ascending a ridge of mountains. The road wound in a most circuitous manner, in many places along the edge of precipices, and was barely wide enough to allow the animals to pass. The wind blew a gale, and was accompanied with rain, making our journey very unpleasant. The sun was just setting when we obtained the first sight of the beautiful valley of Cujibamba and the town of Loja. It took us nearly two hours to descend: the rains had made the roads so slippery that the animals could not walk,

but were obliged to put their feet together and slide down —an operation so unpleasant that we were glad when we had reached the bottom in safety. It was eight o'clock before we entered the town, having had to cross one of the rivers between which Loja is situated. We proceeded to the house of Dr. Richard Ekins, an Englishman who had settled and married in the country, and to whom we had a letter of introduction from the British Vice-consul at Payta. Unfortunately the Doctor and his wife were absent from home, but his brother-in-law accommodated us for the night. As there is no inn at Loja we hired, much to the disappointment of our host, several large rooms in the hospital, for which we had to pay a very trifling sum. We also engaged an Indian woman to cook for us. She charged us about two shillings a day, and furnished us with breakfast and dinner, and such a variety of dishes that we could not comprehend how she could provide so much for so small a sum; still she always tried to excuse herself that the meals were not so good as they ought to be, and whenever there was anything wanting which she considered indispensable, she threw all the blame on the state of the weather, telling us that as the rivers were much swollen the supplies could not have come across. Certainly Ecuador is the land of cheap living; but unfortunately provisions cannot be obtained in all parts of the republic.

The Governor of Loja, Don Mariano Riofrio, behaved very kindly towards us, sending us many little things necessary for our comfort, lending us mules and horses to make excursions, and making us acquainted with all that he considered curious and interesting. He had a

great desire that we should visit the mines of Piscobamba, to obtain some notion of the riches of his province; but as the neighbourhood of Loja was a very profitable locality for making collections in Natural History, we did not consider it advisable that both of us should leave it; it was therefore agreed that Pim should proceed to Piscobamba, especially as Dr. R. Ekins, from whom we hoped to obtain some extensive information, was staying at that place.

"The Governor," says my companion, "lent me a mule, and accompanied me himself some distance. After riding hard the whole day, I could not reach Piscobamba, and was obliged to put up at Vilacabamba, a little village containing about 150 inhabitants. The next morning, the *teniente* of the place, and some of his friends, went with me. The first part of the road was over pampas, covered with beautiful grass; we then entered the hot valley of Piscobamba, which had much the appearance of the deserts of Peru,—the change was most sudden; I also for the first time saw the snow-capped mountains of the Andes. In the afternoon I arrived at the hacienda where Dr. Ekins was stopping: he, as well as the proprietor of the farm, Don Jose Miguel, whom he was treating for paralysis, and to whom I had a letter of introduction, received me very kindly.

"During my stay at Piscobamba I was out all day visiting mines, or rather holes sunk in an inclined plane to a depth of about two hundred and fifty feet. The working had been stopped by water. I broke off some of the best specimens I could find—gold, silver, and copper. Report says that once these mines afforded considerable

revenues. I was also taken to an immense hole, which had been excavated at the expense of a company of merchants, in order to obtain a treasure supposed to have been buried in that spot. The story runs thus:—When Atahualpa, the last Inca of Peru, had become the prisoner of Pizarro, he sent Indians to the principal cities of his realm to collect the ransom that was demanded for his liberation. Those carrying part of the treasure, when they arrived at Piscobamba, on their way to the Spanish camp, hearing that their king had been murdered, buried their precious burden, to conceal it from the enemy. One of the Indians however confessed the proceeding to a Spanish priest, and with his assistance drew a chart, which, on being discovered a few years ago, gave rise to the formation of a company. The map enabled the association to pitch upon a spot which, from the number of jars, bones, and other remnants that were discovered, bore evidence that it had previously been overturned by the hands of man; but after digging for a long time the funds became low, and the work had to be discontinued for want of capital.

"On the 28th, early in the morning, I departed. My mule was laden with two pair of saddle-bags full of mineralogical, botanical, and zoological specimens. The Doctor and Don Jose Miguel, wishing to show me a silver-mine in the parish of Malacartos, went with me some distance, but by a different road from that by which I came: the mine, though much larger, was, like the others, a mere large hole. I had been told that I should reach Loja in good time. In spite of these assurances, evening overtook me when I was yet three

leagues distant, quite alone, ignorant which way to turn, and the mule sinking up to his belly in the mud. I had read of the sagacity of mules, so throwing the reins on the animal's neck, I let him follow his own road; he led me through the most out-of-the-way places, and about ten o'clock stopped before a gate. In Ecuador gates are differently made from those in England, consisting merely of two upright posts with large holes at regular distances, through which poles are inserted. Being extremely tired I did not get off, but took out as many of the poles as I could reach, and reined my animal back to take a leap, which he did right well; unfortunately my gun caught across the uprights, and took me out of the saddle; my foot was held fast in the stirrup, and I was regularly hung. The mule, after capering about a little, broke the stirrup-leather, and thus released me. I then walked a short distance, and came to a house, which proved to be the Governor's, and was the place where the mule had been foaled. The people, after some trouble, roused up one of the Indians, to guide me to the town. I arrived at Loja in about an hour; all the things were brought in the next day, and the only inconvenience I experienced was from a pain in the right shoulder, caused by a kick from the mule."

CHAPTER XII.

Loja—Las Juntas—San Lucas—Saragura—Oña—Losing the way—Cochopato—Navon.

The town of Loja (Loxa), or, as it was formerly called, Zarza, is situated in the valley of Cujibamba, at the junction of the rivers Malacartos and Zamora, tributaries of the Amazon. It was founded in the year 1546, by Captain Antonio de Mercadillo, and soon rose to importance, partly owing to its favourable situation on the high road connecting Cuzco with Cuenca, Riobamba, and Quito, and partly by its trade in Quina and annual fair. But during the latter part of the Spanish domination it shared in the gradual decline of South America, and the political convulsions which followed gave it a severe blow, until it arrived at the state in which we found it—dull, decayed, and dirty. The principal streets run from south to north, and are crossed by others at right angles, thus dividing the town into regular squares; they are all paved, and streams of water run down the centre of each. The houses are one or two stories high, and built

of adobes. Most of the larger houses have balconies; glass windows are not much seen, wooden shutters supplying their places. The dwellings are dirty and full of fleas and jiggers (*Pulex penetrans*, Linn.). The latter is a minute animal, which introduces itself into the softer parts of the body, especially the feet, where it grows most rapidly and deposits its eggs, and can only with difficulty be extracted; nearly every day four or five of these intruders have to be taken out—an operation in which the natives have acquired considerable skill. In the centre of the town there is a large square, with a fountain in the middle, the sides consisting of the government offices, an unfinished church, a college, and several private buildings. Loja has seven churches, a nunnery (Concepcion), — containing at the time of our visit twenty-two nuns,—and a hospital. The treatment of the patients in the latter establishment is entrusted to women, who gather their remedies in the neighbourhood. The only medical man in Loja is Dr. Ekins; but as he is mostly attending patients in different parts of the country, the inhabitants derive little benefit from his skill, and have to depend upon the vague knowledge of the virtues of plants and animals which tradition has handed down to them.

The climate of Loja and the whole valley of Cujibamba is very moist. The wet season commences in January and lasts until the end of April, and sometimes until the middle of May; in June, July, and August there are heavy rains, accompanied by strong gales of wind; from September to January there is generally fine weather,

but a really dry season it cannot be called,—occasional showers of rain fall even at that time of the year. The average annual temperature of Loja has not yet been ascertained; during our stay the thermometer stood generally, at six o'clock in the morning, at 50° Fahr., at two P.M. 65°, and at ten at night 58°; when the sun is south of the equator, some of the days are said to be very warm. Notwithstanding the damp climate, the inhabitants look remarkably healthy, and instances of longevity are not unfrequent, some people having arrived at the age of one hundred years.

The number of inhabitants is estimated at 5000, consisting of whites, Indians, and half-castes. They are good-natured and hospitable, but, like most races who have descended from the Spaniards or owe their civilization to them, they are indolent, dirty, licentious, and fond of gambling. The men are tall and well proportioned: in the streets they wear a straw-hat, and a cloak or a gay-coloured poncho; otherwise they are dressed in the European fashion. The women, although they have fine faces, are short and ill-shaped; they also dress more or less in our style, but they never wear caps or bonnets, and only when riding on horseback Panama hats.

Smoking is practised by both sexes. The women use small paper cigaritas, which it is courtesy to present to them; however, as the softer sex in the other towns of Ecuador do not indulge in the same habit, they feel a certain reluctance to smoke before strangers, and some of the ladies endeavoured to persuade us that they only used tobacco on account of the damp

climate. Brandy is drunk in great quantities, and by all classes. At their reunions it is customary for a person to hold a glassful in his hand, and, bowing to another, to say, "Con Usted;" the person thus addressed, if he does not wish to give offence, answers, "Con mucho gusto," and empties his own glass: it is unnecessary to add the result of this proceeding. As a general rule, the women are not allowed to take their meals with the men, but have to eat in the kitchen; the Governor however, and a few others of the more civilized, have broken through this absurd custom. Morality is at a low ebb, in a great measure owing to the priests, whose charges for marriages, we were told, are exorbitant, compelling many people to live together without the marriage ceremony, or at least giving them a plausible pretext for doing so.

The inhabitants are employed in collecting Quina and in trading in that article, in manufacturing pillons and ponchos, and in cultivating wheat. Every year, in September, there is a great fair, which begins on the 8th of that month and lasts several weeks; it is visited by people from all parts of the country. As a prologue to it, there is a religious procession in honour of Nuestra Señora de la Feria, a female saint specially created for the occasion. On the 22nd of August, when "Our Lady" entered, the town was in a state of excitement. In the morning, a band, consisting of five drummers and three fifers, paraded through the streets to announce her advent. The houses in those parts of the town through which the saint was to pass were covered with curtains, carpets, bedclothes, etc., of the most diversified shapes

and colours, and the streets were strewed with flowers. A body of Indians, headed by the alcalde, preceded the party: many of them wore alligator-heads as masks, and all were performing hideous grimaces to their own music, and frequently taking draughts of *chicha*. This is a part of the old superstitions, which the politic Spaniards, in order to reconcile the natives, have allowed to be mixed up with the rites of the Roman Catholic religion.

The vegetation around Loja is most luxuriant. There are a great many bright and large flowers; tree-ferns are plentiful, and *Calceolarias*, *Fuchsias*, *Convolvulaceæ*, *Siphocampylos*, and some fine *Ericaceæ* are abundant. The Quina of Loja is celebrated, but there are at present only a few trees in the neighbourhood of the town, and in order to get the bark the people have to go some distance. It may be collected at any season, and an axe and a knife are the only implements required for that purpose. One man is able, in a favourable locality, to gather about an aroba daily; an aroba of the best sort, the Quina fina de Loja (*Cinchona Condaminea*, H. et B.), sells for about twelve shillings, the other kinds for much less. The Achira (*Canna discolor*, Lindl.) is a plant commonly cultivated for the sake of its tuberous roots, which are eaten, and look like camotes. Peas, beans, potatoes, bananas (*Musa sapientum*, Linn.), sweet potatoes, and wheat are grown in great quantities.

On the 1st of September we departed from Loja. We intended to leave early in the morning; unfortunately the men were so drunk that we were obliged to load the animals ourselves, and even then we had the great-

est difficulty in making the Indians accompany us. The weather was most unpromising—very rainy, with every prospect of its continuance. The road was most difficult to pass; the horses and mules, also a bull that carried one of our bags, were sinking up to their bellies in mud, and we did not escape without some tumbles. Not being able to reach a house, we had to bivouac in the woods, under a pouring rain, covered with mud from head to foot, and the ground a regular swamp; with a great deal of trouble we managed to get a cup of hot cocoa to keep out the cold, and, as may be supposed, we passed a most miserable night.

We started at daybreak with the same kind of roads, and every bone aching with rheumatic pains. About noon we crossed the river Las Juntas, on a bridge of Indian workmanship, made of trunks of trees strewn over with twigs and gravel, without any side-rail, and not more than about six feet in breadth; and we reached the tambo of the same name, two huts, where we ought to have slept the previous night. We got a meal of eggs and *chicha*, and pushed on for the village of San Lucas. At a short distance from Las Juntas, both the weather and the roads changed, becoming equally dry, and the scenery was most beautiful. As we were riding along we had the good fortune to meet the cúra of San Lucas, who proved to be the brother of the hospitable *teniente* at Gonzanama, and treated us with equal kindness.

San Lucas we found to be an assemblage of Indian huts, and built on the side of a hill, the most tremendous we had yet had to pass: steps had been cut on its sides,

to assist the mules both in ascent and descent. Near the village there are the ruins of a Spanish town, which was destroyed by an invasion of the wild Indians of Zamora. The tree-fern is so plentiful around San Lucas that the people use the wood for the commonest purposes.

The next morning we started for Saragura, fifteen leagues from Loja. For nearly a league after leaving San Lucas the road was dry, but after that it became horrible; the hills were steep and covered with mud, obliging the beasts to put their fore feet together and slide down the best way they could. After many tumbles we arrived at Saragura, where we were kindly welcomed by the *teniente* of the place. He told us that the village contained 2000 inhabitants; it did not appear to us that there were so many, but the houses were very scattered, and covered a large space of ground. The church, both internally and externally, was the prettiest we had seen, and was kept clean and neat. The land around Saragura was in a high state of cultivation, and wheat abundant. The thermometer stood at 60° in the evening. The only white people living in the place were the priest, the *teniente*, and two or three merchants; the latter have a trade in cascarilla, but that article is of inferior quality, and not worth more than six or seven reals the aroba of 25 lbs.

After staying for the night at Saragura, we proceeded on our journey; fresh mules—much to our surprise—having arrived for us early in the morning. We were amused by the numerous cavalcades we passed, which were on their way to the fair at Loja: both men and women were jaded and covered with mud, the women ap-

pearing as hardy as the men. Only the wealthier people put up at a house during the night, the rest camping out in the fields.

A league from Saragura the vegetation became very scarce; the country had a rather arid appearance, and the hills were of the most fantastic shapes. At four o'clock in the afternoon we arrived at the village of Oña, five leagues from Saragura. The parish contains about 2000 inhabitants, but the village itself not more than one or two hundred; it possesses a good church, with a fine large house for the cura; the tambo is cheap and clean, the best we had seen. There are no mines in this district; cultivation is scarce, though there are corn-fields; the sowing time, as at Saragura, is in January, February, and even March, and the harvest in October.

On the 5th of September we left Oña. The morning was charming; while the valleys were still enveloped in the long shadows of the mountains, the lofty summits of the Cordillera were already gilded by the rising sun, and singularly contrasted with the deep azure of the sky. We felt all the beauties, and none of the inconveniences, of the tropics. The air was pure and refreshing, the landscape grand and bold, and around us lay fields cultivated with grain and fruit, which reminded us of our own happy climate, and for a moment made us forget that we were travelling in an equinoctial region.

Our animals being in high spirits, and the road hard and dry, we soon left our luggage-mules behind, and long before noon reached Cochopato, a small village. There we intended to await the arrival of the muleteers,

but, when after a considerable time they did not make their appearance, we resolved to proceed without them to Navon, the next stopping-place. From Oña to Cochopato there had been only one road, and we had hitherto experienced no difficulty in following it; but now two presented themselves: the one led over plains, while the other, branching off to the left, wound along the mountains. Though entertaining no doubt that the first was the one we ought to follow, yet, in order to be quite certain, we rode up to an Indian shepherdess, and, pointing to the road which traversed the plains, asked her, "Is this the highway to Navon?" She nodded, and replied, "*Arì*"—a word which, as we afterwards learned, signifies "yes" in Quichua; but, as our question was put in Spanish, we expected an answer in the same language, and therefore very naturally mistook her *arì* for a corruption of *arriva* (up).

Fully convinced that we were following the right direction, we ascended the mountain road, traversed a dark-looking forest, and entered, after a few hours' ride, one of those extensive grassy plains, or *pampas*, so numerous in the Andes. For some time we went along the banks of a rivulet, then descended into a valley, and were soon surrounded by a number of hillocks. I was so much engaged in collecting specimens that I paid little attention to the road; but when my principal harvest was over, I began to look around, and was at once convinced that we were upon a mere track made by cattle. I was prevented from communicating this observation to my companion, as he had gone ahead, and was resting himself in a little valley. Not being within

speaking distance, I took my poncho, waving him to come back; he made similar signs in return, and I, satisfied that he had understood me, commenced retracing my steps. My former inattention to the road however proved very disadvantageous. In a short time I found myself among a grove of trees, where I remained a few minutes, in order to collect some specimens; but, seeing that I had mistaken the path, I turned back, and reached the stream along the banks of which we had come. This place I thought a very good one for awaiting my companion's return. I dismounted, and stopped about a quarter of an hour, but he did not appear. I hastened back to the valley where I had last seen him; it was deserted. I now thought he must have passed when I was among the groves, and therefore took the proper direction to Cochopato. I succeeded in following the rivulet for about two miles, when the stream took a sudden turn, and I stood before a number of small paths branching off into different directions. I first took the central, as the one most likely to lead to the village—it conducted me to a lagoon, whither the cattle repaired to water: I was obliged to return; and all the other paths terminated in similar obstacles—I either arrived at a swamp or came to a grove, amidst which the track was lost.

With riding to and fro I had become completely bewildered; all my attempts to discover the right path had failed. Twilight had commenced, and I was still wandering over the vast pampas, shivering with cold and exhausted with fatigue and hunger. I had lost all,—my companion, my guides, and my way. Suddenly a ray of hope burst upon me: in one of the paths I found

an article belonging to Pim's saddle; surely he could not be far distant. I called his name; I shouted. No reply followed,—only the echo imitating my voice. My rejoicing was speedily changed into apprehension. What could have become of him? Perhaps he had been slain by the hands of treacherous Indians, or been attacked by wild animals.

My companion had been equally unlucky. When I was making signs to him he imagined that I had lost something and was returning to search for it; but, finding that I remained rather too long, he went back to the rivulet, and probably passed it when I was hidden by the trees. A short time after, his horse shied, and made such violent jumps that one of the stirrups was carried away, the finding of which caused me so much apprehension. My companion, like myself, had lost his way, but fortunately observed in one of the valleys a hut, which with some difficulty he succeeded in reaching; he persuaded one of the inhabitants to serve him as a guide, and arrived without any accident at Navon. He repaired to the house of the cura, in hopes of finding there both myself and the muleteers. The latter he met with, but he learnt with surprise that nothing had been heard of me. The cura exhibited great anxiety, and informed my companion that the part of the sierra in which I had been lost was uninhabited, and rendered dangerous by the inroads of savage Indians. He at once despatched six natives, whom he loaded with provisions and directed to fire guns at elevated positions in order to attract my attention. He went still further: by his influence his brother and several other gentlemen of the place offered

to accompany my friend on the following morning to endeavour to discover traces of the lost traveller.

When darkness closed around me, I gave up all hopes of finding my way. I was more than 8000 feet above the sea, and felt both cold and hungry; but, seeing no prospect of remedying the evil, I determined to make the best of my situation. Tying my horse to a low shrub, I took the saddle as a pillow, the saddle-cloth as a mattress, and, throwing the poncho over me, delivered myself into the arms of Morpheus. I had just arrived at that state when the exhausted frame feels that sleep is approaching, when voices became audible. I listened in breathless anxiety: it was no deception; they came closer and closer, and at last I distinguished the bleating of a flock of sheep, intermingled with the notes of an Indian song. I was near a valley, and the sounds proceeded from below. I descended as quickly as the nature of the ground would permit, and in less than ten minutes stood amid the flock. The sheep were driven by two Indian girls, who, at my unexpected appearance, screamed and ran away. I followed one of them at full gallop, and succeeded in overtaking her; upon my inquiries she told me that I was not far from Cochopato, the place we had passed in the forenoon, and that Navon was more than four leagues distant.

Having now a substantial road before me, I moved on in a pleasant trot, and soon fell in with a young man who was carrying a bundle of wood. He informed me that he belonged to the village, and that his parents would be glad to receive me into their house. And so indeed it proved: both his father and mother showed

me every mark of attention, and while the one acted the entertaining host, the other performed the duties of a good housewife, and placed before me a supper, consisting of a roasted Guinea-pig, potatoes, and some excellent cream-cheese. Though it was late, yet my arrival soon spread through the village, and in a short time the room was crowded with visitors, who came to look at the stranger.

The landlord tried to persuade me to remain for the night, but to that proposal I could not consent. I had heard that the guides as well as Pim had passed the village, and knew that they would be anxious at not finding me at Navon; so having obtained a guide I started about midnight and reached the village at four o'clock in the morning. Our muleteers were at the *tambo*, and I learnt from them that my companion was sleeping in the house of the cura. I repaired thither, but a number of furious dogs prevented me from effecting an entrance. Having returned to the *tambo*, I wrapped a blanket around me, and was almost instantly asleep. I had hardly enjoyed rest more than half an hour when I felt a touch on my shoulder; I awoke—the companion of my travels stood once more before me. He had risen early in order to commence searching, and was agreeably surprised at finding me so soon.

Thus ended our lesson in Quichua, the cost of which, including all delays and expenses caused by it, amounted to nearly ten dollars. After that time both of us paid more attention to the language of the Incas: we noted down words and learned sentences, and before reaching Guayaquil we could at least so far make ourselves in-

telligible as to ask for the necessaries of life. Although now, from want of practice, we have forgotten many expressions, yet we still remember that *arì* means *yes*, and that from the confusion of *arì* and *arriva* serious consequences may ensue.

CHAPTER XIII.

Navon—Mariviña—Cumbi—Cuenca—Quinoas—Guaicuase—Mollatura—Yerba Buena—Cave of Chacayaque—Naranjal—Arrival in Guayaquil.

The village of Navon contains about two hundred inhabitants, and the whole parish scarcely more than a thousand, chiefly Indians. The climate differs little from that of the other places through which our route lay. The wet season commences in December and lasts until the beginning of May, but the rains are not continuous, and during the so-called dry season showers are not unfrequent. From May until December there are strong gales of wind. Wheat is sown in February and March, and ripens towards the middle of August, and, as in all elevated regions in South America, it grows scarcely more than two feet high; potatoes are planted in December.

We observed near the houses a number of sticks piled together, and on inquiry found that they had been placed there to enable the poultry to take refuge from the con-

dors, which descend with great rapidity upon their prey. From these enemies the inhabitants have a good mode of freeing themselves. An old horse, mule, or other large animal, is killed and left in the fields. A condor, perceiving the dead body, descends, and devours so much of the flesh as to be thereby prevented from flying. The natives then throw over its head a poncho, a square piece of cloth with a hole in the centre, and thus, with the help of the *lazo*, make a prisoner of "the king of birds."

On the 7th of September we continued our march. The muleteers we had hired were so drunk that we were compelled to send them back, and take two boys instead; the mules also were inferior, and in crossing a river one of them stumbled, wetting two boxes containing some of our most valuable specimens. We hastened to reach a habitation; evening however overtook us on a grassy plain, with isolated *Bromeliaceæ*. We bivouacked under some bushes (*Macleanias*), but as it rained and blew very hard we could not dry our specimens. To a naturalist there can be nothing so distressing as to see the collections which he has formed with such care, at great expense, and often at the peril of his life, on the point of being spoiled. We were thinking the whole night of our wet boxes, and started at the first sign of day. The night had been a most miserable one, and we were exposed, without a tent, to the full influence of the inclement weather. Fortunately we soon reached the tambo of Mariviña, and, making a good fire, we set to work drying our papers and plants—a task which occupied us several hours.

We had great difficulty in obtaining mules and horses to take us to Cuenca, having to catch them ourselves, which, as the animals were very wild, was not accomplished without considerable trouble. However, before dark we succeeded in getting to Cumbi, a village pleasantly situated in a large valley. The cura of the place, a fat, jolly priest, received us hospitably, and invited us to partake with him of an excellent supper. He was astonished at our not drinking the liberal allowance of spirits which it is customary to place before a stranger; indeed all with whom we came in contact were surprised that we did not drink spirits, that we abstained from smoking, and that we washed every morning in cold water. They told us that it was imprudent to wash the face and hands so early in the day, as rheumatism would be the consequence. They still remembered an Englishman, Mr. William Lobb, who had passed through the country a few years previously, and who, the inhabitants said, had been as fond of using cold water in the morning as we were. The natives themselves are very reluctant to touch water, and do not wash themselves regularly,—perhaps but once a week, or even at still greater intervals.

Soon after supper our host went to bed, and we were conducted into a room destitute of all furniture. In Ecuador, as indeed in most parts of Spanish America, a traveller is expected to carry his bedding with him; hospitality, though including food and lodging, does not extend to a bed. As we dispensed with that article, we spread out our *pillons* (the coverings worn over the saddles) on the floor, lay down upon them, and wrapped ourselves

in our blankets. But as soon as the candle was extinguished we were visited by a number of rats, which ran about the room and over our bodies, and began to gnaw at our boxes. Fearing they might injure our collection, a part of which we had scarcely dried again, we got up and drove them away; they returned however the moment we lay down, so we determined that while one of us was sleeping the other should watch—an expedient which was the more necessary, as, from not having slept the night before, we were both extremely tired.

The following morning we started for Cuenca. The country was perfectly flat,—an agreeable change after descending and ascending so many mountains rendered slippery by the rains. There were some fine meadows, and herds of cattle—goats, horses, cows, and oxen—grazing. We had the good fortune to join company with two ladies who were riding into the city; they were very communicative, and pointed out everything curious on the road,—the place where the mail had been robbed of a large amount of money (an unusual occurrence in Ecuador), now indicated by a large cross, and the localities where some of the skirmishes of the Revolution had been fought.

We reached Cuenca at an early hour, and went to the house of Dr. James Taylor, a Scotchman, who received us with the greatest possible kindness. We found there a letter written by Captain Kellett, which, directing us to rejoin the Herald as soon as possible, compelled us to take the nearest road to Guayaquil, and abandon our plan of visiting Quito. Her Majesty's Consul at Guayaquil, Walter Cope, Esq., had also sent

letters to different friends of his in Cuenca, begging them to forward our views—a request to which they acceded most cordially.

On the 12th Dr. Taylor invited a number of friends to an evening party in honour of our arrival. Many healths were drunk, and dancing and singing were kept up until a late, or rather an early, hour. The three Englishmen living in Cuenca, Colonels Harris and Talbot and Dr. Jervis, were with us. The two former had fought through the whole war of independence, having been amongst the first volunteers who swelled the ranks of Bolivar's army. Dr. Jervis was the nephew of the Earl of St. Vincent, and, although seventy-three years of age, he was very active; some of his anecdotes of the sea-service in which he was engaged were most amusing. The Doctor had been a long time in South America, but had never learnt to speak Spanish fluently, and his conversation was a strange mixture of English and Spanish, occasionally varied by a few words of Quichua.

Cuenca is considered the finest town in Ecuador; it is situated in a plain near the river Matador, and its churches and convents impart to it an air of grandeur. According to Herrera it was formerly called Bamba, and was founded by the Marquis of Cañete, when he was Viceroy of Peru. Like most towns built by the Spaniards in America, Cuenca is divided into regular squares. The streets are of moderate breadth, and paved; the principal ones have a footpath for passengers, and through each there runs a stream of water. It has twelve churches, including those attached to the convents. In the centre of the city there is a large

public square (Plaza Mayor) with a fountain in the middle, and at the sides the government offices and the Cathedral; three smaller squares (Plazuelas) are situated in different parts of the town. The houses are built of adobes, and are generally of one, seldom of two stories; the walls are, on account of the earthquakes, of great thickness. The windows are secured with iron bars, like those of our prisons, but as the people bear an excellent character, this is done more because glass is too costly to be accessible to all classes, than on account of housebreakers. None of the public buildings are deserving of particular description: the convents and churches are remarkable neither for their style, size, nor wealth. In the college there were at the time of our visit about five hundred students, who were instructed in theology, Latin, and Spanish. In approaching Cuenca from Cumbi, the traveller passes a fine stone bridge with two arches, leading over the Matador, a deep and rapid river. A short distance from the town are the remains of a bridge (Incachaca) built by the Incas across the river Talqui, or, as it is also termed, Chaguarchimbana.

The population amounts to about 20,000, but no accurate census exists. They are chiefly of Indian descent, only one-third of the inhabitants being white; they call themselves Murlacos, a name the derivation of which is obscure. The inhabitants have a fine healthy colour, even the Indians having red cheeks. Diseases are few, and those prevalent seem to be caused more by uncleanliness than by the effect of climate. The costume of the white men is European; the women wear the mantilla, which, when walking in the streets, is thrown over their

heads, and sometimes topped by a Panama hat. Cuenca, being the see of a bishop, and having several convents, swarms with priests of all grades. Shopkeepers are also a numerous class, every man seeming to take a pride in having something to sell. However, the town cannot boast of any great commerce: there used to be a considerable trade in blankets and flannels, the produce of native industry, but since foreign goods may be had cheaper, and at the same time better, it has ceased. The Indians still manufacture a cloth which appears to be in use among all ranks. A few hides are occasionally sent to Guayaquil, and many other raw products might be taken to that port if the traffic were not rendered impossible by the want of good roads. Wheat the people of Guayaquil are obliged to buy from Chile, although the highlands of Ecuador produce an immense quantity. Coal is abundant in the neighbourhood of Cuenca, and if there was a highway it might be sold at the port of Naranjal at five or six dollars a ton. A new road was being formed to the coast; the part completed was little better than a gravel walk in an English garden, but for Ecuador it might be called excellent, and if finished would be of incalculable value.

The people of Cuenca, like those of the other places through which we passed, eat more vegetable than animal food, and take several meals during the day. Early in the morning they drink coffee or chocolate; at ten o'clock they have breakfast, composed of made-dishes, soups, eggs, etc.; and at two or three o'clock in the afternoon, dinner, which is much the same as the breakfast. Guinea-pigs form a favourite dish with every class,

and, among the Indians, to place them before a guest is considered as a mark of honour. Supper is taken at an early hour. The courses are brought on the table in as many plates as there are persons eating—every one gets a plate to himself; *locro*, a kind of soup made chiefly of potatoes, concludes every meal. If any one finds on his plate a good piece, and desires to be polite to his neighbour, he hands it to him, accompanying the action with some complimentary phrase. The women are not allowed to take their meals with the men, but have to wait until the latter have finished. There are besides several other customs too trifling to mention, but all indicating a rather primitive state of civilization.

There are no places of amusement; the people seem to pass their time in siestas, lounging in the streets and plazas, smoking cigars, and talking scandal. The Quichua language is in general use, and even spoken by the whites among themselves; it occupies about the same position as Platt-deutsch does in Northern Germany. Most of the people are able to read, especially those born since the independence of the country, but their general knowledge is limited, and of great men they hardly know any besides Bolivar, Humboldt, and Napoleon; in geography they make sad blunders, calling France, for instance, the capital of Paris.

The Indians of the neighbourhood of Cuenca, and all those of Ecuador speaking the Quichua language, have changed so little in appearance, dress, customs, and manners, since Pizarro's invasion, that the best account of them would be a transcript of that which the old Spanish historians have handed down to us. They still

speak the language of their forefathers, and the vocabulary which we collected agrees well with the earliest specimens of Quichua published; the men still wear a shirt, knee-breeches, and a poncho, all of wool, and made by their own hands; the women still dress in petticoats reaching a little below the knee, short body-coats, and a scarf worn like a shawl and secured on the breast with a large silver pin. They have changed their religion, and perhaps in many instances are sincerely attached to the Roman Catholic Church, but at heart many of them still venerate the *inti* (sun), and the part they take in religious processions—dancing before the images of the saints, and dressing in fantastic garments—would seem to be more deeply rooted than in mere usage. Indeed it is not likely that a people who in other respects cling to old customs with such pertinacity, should have so easily been induced to change what is dear to most men—their religion; for the Spaniards, after conquering the New World, did not adopt the course which is pursued with so much zeal and ability by missionaries at the present day. That instruction must precede conviction was a maxim the Spaniards were not prepared to uphold: they were satisfied if the natives could be induced to become nominal converts. Hence we find that the spirit of Christianity was seldom comprehended by the Indians, and that in many instances they worship the Roman Catholic saints, believing that they are doing homage to their own gods merely with another name.

The Indians are strong and hardy, and are very numerous in places where they have avoided connections with the whites or negroes,—for this, after all, appears to be

the great secret to preserve them from destruction. We have been told repeatedly, that when a race becomes extinct after having become civilized, it is because it has acquired all the vices and few or none of the virtues of civilization. This assertion however must be regarded as mere cant; closer investigation shows that even if the highly refined European desired to instruct the savage in new vices, he would be unable to carry out his intention. Those who read old historical works and journals will find that most nations, before they came in contact with us, were as demoralized as man can possibly be. Even ardent spirits were by no means new to most savage tribes; intoxicating drinks far more noxious than ours were known to them: the Mexicans had their *pulque*, the Peruvians their *chicha*, the Sandwich Islanders extracted a beverage from the Ki and the Ava plants, while the Kamtchadales were skilled in obtaining a strong drink from the roots of the *Spiræa Kamtschatica*.

The Indians are well aware that they have been the lords of the country, and they are often heard to say that if they steal anything belonging to a white man they are not guilty of theft, because they are taking what originally belonged to them. How injurious such reasoning must be to society at large may easily be imagined; it proves that the consequences of a foul deed—as the conquest of Peru must be pronounced to be—are felt even after the lapse of centuries. That the Indians entertain a hope of freeing themselves from their oppressors, by "driving them into the sea," seems to be a well established fact. Whether they are sufficiently united

to act in concert for carrying out this plan is difficult to determine, but it has been ascertained that there is an alliance between all the Indians speaking Quichua, called Los Gentiles by the Spaniards, and the more barbarous tribes living in the fastnesses of the primeval forests. Should they persevere in their intention, they will find it every day more easy, unless the face of the interior of Ecuador and Peru is greatly altered, for the white and mixed population, since immigration has ceased, or at least been less numerous, is decreasing, while the Indians, wherever they have kept themselves free from intermixture with other races, are steadily increasing.

The climate of Cuenca and its neighbourhood is agreeable: during our stay the temperature in the middle of the day was not higher than 70° Fahr., and we were told that slight night-frosts are not uncommon in September. The wet season begins in November and ends towards the middle of May. The soil is fertile, producing abundant harvests of Indian corn, wheat, potatoes, and Alfalfa (*Medicago sativa*, Linn.). The Aracacha, a root like that of the Dahlia, and considered by some the finest esculent tuber existing, thrives well, and is the more valuable because it is not subject to so many diseases as the potato and the cassava; in Cuenca two varieties of it are grown, the one has a yellow, the other a white root. Those who take an interest in agriculture will remember that prizes have been offered for the successful cultivation of the Aracacha in Northern Europe, but that hitherto all attempts to naturalize this valuable vegetable in our latitudes have proved abortive. In Ecuador the tops of the tubers are cut off and left on

the field; their vitality is so great, that after they have been thus exposed for months to the influence of the weather, they will grow as soon as they are put into the ground. One would think that a plant of such a nature, and a native of the same country as the potato, might be acclimatized with us, although experiments made seem to lead to a contrary conclusion. With the exception of the different kinds of cabbage, which cannot be grown except from European seeds, all kinds of vegetables—turnips, carrots, lettuce, peas, etc.—succeed well. Of fruit there is a great variety—oranges, chirimoyas, bananas, plantains, apples, peaches, chamburos, and many others. The gooseberry-shrub was introduced a few years ago, from England, by Don Horacio Alvarez. At the market provisions may be obtained in profusion and extraordinarily cheap: a bullock may be had for 24*s.*, a fat pig for from 10*s.* to 20*s.*, a sheep for 4*s.*, twenty-four eggs for 3*d.*, and a cream-cheese, nine inches long and three inches in thickness, for 6*d.* Vegetables, both native and European, are offered at low prices; indeed such a quantity do the people get for the smallest piece of money, that, if they want to buy the provisions necessary for the day, they purchase eggs, and then barter with them for the articles required.

All our domestic animals thrive exceedingly well, and the prices of meat mentioned above will show that the rearing of cattle must be very easy. The llama is used as a beast of burden, but not frequently; Guinea-pigs are kept in great numbers, especially by the Indians. Indeed, not only at Cuenca, but in all the towns and villages of Ecuador through which our journey lay, pro-

visions were plentiful. The country only requires to be in the hands of an active population to be one of the most flourishing on the face of the earth. Providence has lavished upon it not only high mountains, extensive meadows, and valuable Quina-forests, but a healthy and temperate climate, inexhaustible mines of all kinds of metals, and a fertile soil, and moreover placed it in the centre of the inhabited globe, between one of the largest rivers in the world, the Amazon, and the great Pacific Ocean. Ecuador presents a vast field for enterprise, and if the tide of emigration which has now set in with such force towards North America and Australia could but be directed for a few weeks to Ecuador, the political and social condition of the country would be altered in a short space of time. It is now so thinly peopled, and inhabited by so limited a number of whites, that about twelve thousand immigrants would effect surprising changes. They would not only exercise a most salutary influence upon the elections, by placing the supreme power in the hands of superior men, but they would also be able to destroy the omnipotence of the clergy, who have hitherto resisted the public exercise of Protestant worship; and they would have no difficulty in keeping in order the negroes and zamboes of Guayaquil, the chief promoters of most of the revolutions that have disgraced the annals of this republic.

On the 18th of September we bade adieu to Cuenca, where we had met with such a warm reception. Our English friends gave us nearly a mule-load of provisions, and Dr. Taylor and Colonels Harris and Talbot accompanied us some distance. The road was up hills which

were mostly well-wooded, but after surmounting the last of them the country became open and grassy. A ride of four leagues brought us to the tambo of Quinoas, where we remained for the night, and, as there was nothing to be obtained, the provisions with which our friends had presented us were of the greatest use. The building was full of holes, exposing us to a fresh breeze. Early in the morning it was excessively cold; hoar-frost lay thick upon the ground, and we were obliged to run about in order to get warm.

On proceeding the country became very interesting, being covered with grass and almost destitute of trees; rocks towering to a tremendous height, and in some places overhanging, imparted an air of grandeur to the whole. About noon we arrived at the Punta de Caja, considered to be about 14,000 feet above the level of the sea. On our right was a mountain covered with snow: from the summit we had a view of about fifty lagoons; there were some fine shrubby *Compositæ* growing near the top, among them the curious *Baccharis thyoides*, Pers., which looks at first sight like the arbor-vitæ. After passing the Punta de Caja we began to descend, and found the temperature on the western side of the mountains considerably higher than on the eastern. The ground for some distance was covered with skulls and other bones of men, horses, and mules: a body of troops, coming from the coast to attack Cuenca, had been overtaken by a snow-storm, and, escape being impossible, nearly all perished. In the afternoon we entered a thick forest, chiefly composed of *Podocarpus*-trees, and at sunset we were glad to reach the tambo of Guaicuasc,

to dry our clothes, several showers of rain having wetted us thoroughly.

The next morning we passed Mollatura, a village containing only fourteen inhabitants, but having a neat little chapel. On the following day we arrived at the tambo of Yerba Buena, which is about 5000 feet above the sea, and takes its name from a plant (*Mentha*, sp.) growing in abundance in the neighbourhood. Several passengers from Guayaquil were stopping at the place, all complaining of the frightful state of the road from Naranjal. A lady who had just arrived was nearly exhausted by the fatigue of the journey, having had to sleep in the forest the previous night, and to ride on horseback all day; we assisted her as much as we could, and, having plenty of provisions, we were able to give her and her husband a good supper.

We had to remain a whole day in Yerba Buena, two of the mules having strayed during the night, and probably returned to Cuenca, and, to make matters worse, one of our Indians was taken ill with fever. There was a thick fog, but, although we could see only a short distance before us, Pim and I discovered some fine plants, —among them was the *Fuchsia spectabilis*, Hook., one of the most beautiful species known. In the afternoon the sky became clear, the fog rose like a curtain, and a magnificent view, including the Pacific Ocean, the river Guayaquil, numerous lagoons, and the Chimborazo, presented itself.

On the 23rd, about noon, the muleteers returned without having succeeded in finding the animals; but as they left their own goods behind, we were able to

depart. As we were starting a party arrived who had lost two mules over a precipice. The state of the roads had not been exaggerated: they were so muddy that the mules fairly plunged through; afterwards, as we commenced descending, the poor animals had to slide down the side of the mountain at least a hundred yards at a time in a zigzag direction: it was frightful. The mules were left to their own sagacity, and it was wonderful to see them, in parts which ran by precipices, slide past, keeping their balance with the greatest nicety.

Rain was pouring, and, the ground being a perfect swamp, it was impossible to stop for the night. However, although it was difficult to drive the guides on, as it was indifferent to them whether they were wet or dry, yet we were determined to reach the cave of Chacayaque, the usual resting-place of travellers. We had to cross several rivers after dark: none of them were deeper than the mules' saddle-girths, but they were so rapid as almost to occasion the loss of one of the boxes; the utmost strength of the men was required to urge the nearly exhausted mule through the water. We reached the cave about ten o'clock at night: it was little better than the ground outside; the rain had been blown into it and wetted it thoroughly. We were unable to light a fire; and being very wet, and disturbed by bats, mosquitoes, and sand-flies, we did not sleep.

The river Chacayaque we found to be of considerable size; its banks, as also the pathway, were thickly strewed with mica, so that our boots and leggings became covered with it. With the first streak of daylight we left the cave: our road lay through a dense forest, in which

palms and tree-ferns abounded, and we crossed several swamps, partly caused by the decay of vegetable matter; the effluvium they emitted was sickening. After about two leagues' ride through these unhealthy places, the ground became drier, and we observed a great number of chameleons, presenting a beautiful spectacle as they were running between the stones and roots of the trees. At noon we entered Naranjal, a small town of about 400 inhabitants, chiefly negroes. Its houses are built upon poles, like those in the Bay of Choco. In the vicinity there are extensive plantations of cacao, for which the moist climate is very favourable; orange-trees (*naranjos*) are not very much cultivated, although the name of the place would lead one to expect large groves of them.

Don Manuel Pico, the *teniente* of the place, to whom we had a letter of introduction, and who moreover had been informed of our arrival by Walter Cope, Esq., the British Consul at Guayaquil, behaved with great kindness towards us. At his house we found a note from our surgeon, Mr. John Goodridge, who had been there with the Consul, hoping to meet us. In the afternoon we went to the port of Naranjal, a distance of two leagues: there were only two houses, which were situated on the bank of a ditch, with several canoes on it; we could see the masts of some larger craft a little further down, where the river widens. Colonel Talbot, in his letter, had requested the *teniente* to supply us with mosquito-curtains, which were indeed a luxury; without them the mosquitoes would have tormented us most terribly; even the negroes have their beds thus protected.

At one of the houses we found four ladies from Guaya-

quil waiting for their horses to proceed to Cuenca; the mother, having just recovered from a severe fever, was to be taken to the elevated regions of the Andes, to enjoy the benefit of the mountain air. We heartily pitied these travellers; and as they anxiously asked us about the state of the roads we were obliged to tell them the truth. The next morning we embarked on board a *chaté*, a small vessel which was loaded with cacao. The river, as we descended it, widened considerably, until at its mouth it could not have been less than three-quarters of a mile in breadth. The banks were clothed with mangoes; alligators abounded, but although we fired at them repeatedly, we did not succeed in killing any. At the mouth of the Naranjal we got a fine breeze, which, with the tide, took us rapidly up the river Guayaquil. About sunset it became calm, with heavy rain, compelling us to anchor for the night. When the tide turned, the *chaté* was once more got under way, and early in the morning came alongside the wharf of Guayaquil.

CHAPTER XIV.

Guayaquil—Santa Elena—Solango—Manta—Monte Christi—Sua—Esmeraldas—Tumaco—Bay of Choco—Arrival in Panama.

The city of Guayaquil was formerly called Culanta, and, according to Herrera, its foundation was laid by the Adelantado Belalsar; but in one of those rebellions of the Indians which succeeded the Conquest it was almost destroyed, and many Spaniards lost their lives. In 1537 however Captain Franzisco de Orellana commenced rebuilding it. The Buccaneers made several attacks upon the place, in one of which they succeeded in capturing it, and extorting a considerable sum for ransom. During the war of independence the city declared itself an independent state, and could only with difficulty be induced to join Colombia, the republic founded by Bolivar, and since split into Venezuela, Nueva Granada, and Ecuador. In recent times Guayaquil has always been a trouble to the head government of Ecuador; the negroes and zamboes, of which the great mass of its population consists, are always ready for a revolution.

As Guayaquil is the chief port of the republic and has nearly always succeeded in upsetting the government of the State whenever it suited its purpose, the supreme power has contemplated opening the port of Esmeraldas, and thus avoid Guayaquil altogether; but the disadvantages that would attend the measure, and the inferiority of the port of Esmeraldas have hitherto prevented the execution of this plan, and it is probable that it never will be carried out.

Guayaquil has no buildings of architectural importance, —indeed few cities in Spanish America possess much interest in this respect. The churches are constructed in a light fantastic style, not unimposing by moonlight, but looking too much like structures of card-paper to please in the day-time; in the interior they are decorated in a tawdry manner, without taste or elegance. The streets, as usual in Spanish-built cities, are at right angles; but the plan, though regular, is not perfectly carried out, the area which the town occupies not being half built upon or inhabited. The chief object to admire is the fine Quay, or Marina, extending for a mile and a half along the banks of the river Guayaquil; it is sixty feet broad, coped with stone, and lined with a row of respectable and even splendid houses, which make a fine display from the water, especially in the evening, when the rooms are lighted up. In the morning an immense number of canoes and boats, loaded with fruit, anchor off the Quay, and one knows not which to admire most, the great variety of these productions or the high state of perfection in which they are presented.

The city numbers 18,000 inhabitants; they are in

much the same state as those of France and England are described to have been during the reigns of Louis XIV. and Charles II.. We were always struck, when visiting these towns, by the resemblance which they bear to those of bygone days, of which we read as of another world, hardly supposing there could be anything like them at present. In Guayaquil there are all the inconveniences arising from filthy open drains, gutters in the middle of the streets, and young ladies—beautiful in person, though not in deed—pouring out of a window something, whether an abomination or otherwise, while the unfortunate wayfarer is looking about in unconscious wonder at the strange scene, until the reverie is disturbed by the streaming shower, neither pure nor limpid. Gay, in his 'Trivia, or the Art of Walking the Streets of London,' written about a hundred and twenty years ago, gives a fair idea of what Lima and Guayaquil are at the present day; a description of Paris in the time of the Regency or of Louis XV. is still more appropriate.

There is some fine land near the town, which, from its flatness and the number of cattle grazing, looks much like the fen country in Cambridgeshire and Huntingdonshire. There are however some hills and some of the highest mountains in the world in the vicinity of this half-submerged district. To the north of Guayaquil stand three hills, known as the "Cross Hills," there being a cross on the brow of each; the eastern hill is 247 feet above the sea, the middle 326, and the western 284: tradition points them out as having been the site of a city in the time of the Incas. One clear afternoon we had a good view of Chimborazo—El lindo Chimborazo, as the

Guayaquilenians call it. The mountain, though upwards of one hundred miles distant, was a grand sight, more striking even than Mount Etna or the Peak of Teneriffe. Chimborazo is a huge irregular double-peaked mass more than 21,000 feet high, and, as the limit of perpetual snow on the equator is 15,000 feet, its height above that elevation will be clad for ever with an icy garment.

The river Guayaquil is a noble stream; at the island of Puna it is eight or nine miles broad, and off the city there are six fathoms of water; at high tide a line-of-battle ship might ascend it, even without the aid of steam. True there are in its bed awkward flats and several rocks which are difficult to pass, but the survey made by Captain Kellett will enable vessels to guard against them. In ascending, the wind is generally fair from south-south-west, but in descending, having to beat down, the difficulty of avoiding the shoals is considerable. This river reminds one of the Thames,—that is, as far as tropical scenery can remind one of that of more temperate climates. Puna, the large island at the mouth, might stand for Sheppey, the terrible mud-flats mentioned for those off Grain Island and in the reaches of the Medway; there is also a false river nearly as large as the main stream, which may carry out a fair resemblance to the Medway, though it is in fact no river, but merely a *salado*, as the Spanish term it,—a salt creek or estuary. In one of the revolutions to which Ecuador has been subjected, General Flores landed a force from this creek and took Guayaquil. The march was said to have been a terrible one, over the half-submerged roots of the mangrove-trees; "but," says Mr. Henry Trollope in his

diary, "Mr. Hull and myself went up to the head of the creek in the 'whaler,' and walked in ten minutes by a capital path to an open space, where we had a full view of the city, and were within a quarter of a mile of the nearest church."

The banks of the *salado*, as well as those of the river Guayaquil, are lined with impenetrable mangrove-swamps; there is hardly a spot on which landing is possible. Punta Piedra, about fifteen miles from Puna, is one of the places where a person may venture to step on firm ground; it was formerly the site of a fort, the ruins of which are still to be found; its epithet, *stony*, or *rocky*, it deserves only by comparison. Ycasa, the estate of a Doña Josefina, is another of the spots which one gladly hails after looking so many days on the interminable mangrove-forest. Prescott, in his 'History of the Conquest of Peru,' draws a charming picture of the entry of the followers of Pizarro and Almagro into "the beautiful Gulf of Guayaquil." But a more unpromising sight—barring the desert—is seldom to be met with, than the swampy shores of this gulf. The tangled underwood, the long roots, and the dense foliage, are all that the eye perceives, and how much that is in a flat country may be easily imagined. Alligators swarm on the mud-banks at low water, and it is difficult to disturb them. They smell abominably; the inhabitants imagine that, like the turkey-buzzards of these countries, and the dogs of Constantinople, they act as scavengers, and tend to keep down the mass of corruption which would otherwise accumulate.

We must now return to the Herald. That vessel,

after leaving Payta in July, proceeded northwards, and, during the months of August and September, was employed surveying the river Guayaquil, from the island of Puna to the city of Guayaquil, and also the Salado and Mandragon, two channels accessible for the largest ships. On the 29th of September she anchored in Punta Santa Elena Bay, to re-survey it, and to complete the Gulf of Guayaquil, of which Santa Elena is the northern boundary. When Pim and myself reached Guayaquil the Herald had departed, and we had to remain in the city until Lieutenant Wood arrived, informing us that the Pandora was at Punta Español, Island of Puna, and was ready to take us to our ship. We left without delay, and rejoined the Herald at Punta Santa Elena.

On the 6th of October, during the night, the Herald and Pandora proceeded up the coast, and on the 7th anchored off Salango Island, which, possessing an extremely moist climate, bears a most luxuriant vegetation. We found but few inhabitants; they employ themselves in plaiting Panama hats, for the hats known by this name are not all made in the Isthmus of Panama,—by far the greater number, and those of the best quality, are manufactured in Manta, Monte Christi, and other parts of Ecuador. The hats are worn throughout nearly the whole American continent and the West Indies, and would probably be equally used in Europe, did not their high price, varying from two to a hundred and fifty dollars, prevent their importation. They are distinguished from other straw hats by consisting only of a single piece, by their lightnesss, and by their flexibility; they may be rolled up and put into the pocket without injury. During

the rainy season they are apt to get black, but by washing them with soap and water, then with lime-juice or any other acid, and exposing them to the sun, their whiteness is easily restored. So little is known about these hats that it may not be deemed out of place to insert here a notice of their manufacture. The plant, the leaves of which are used for this purpose, is commonly called "Jipijape" or "Portorico," and by botanists *Carludovica palmata*, Ruiz et Pav. It has the appearance of a palm, and is found along the western shores of Nueva Granada and Ecuador, extending over twelve degrees of latitude. The "straw" (*paja*), previous to plaiting, undergoes several processes. The leaves are gathered before they unfold, all their ribs and coarser veins removed, and the rest, without being separated from the upper end of the leaf-stalk, is reduced to shreds; after exposure to the sun for a day, the straw is tied into a knot, and immersed in boiling water until it becomes white; it is then hung up in a shady place, and subsequently bleached for several days. The straw is now ready for use, and in this state is sent to various places, especially to Peru, where the Indians manufacture it into beautiful cigar-cases, which sometimes fetch as much as £6 a-piece. The hats are made on a block placed on the knees, and they require to be constantly pressed with the breast. The plaiting is troublesome; it commences at the crown and finishes at the brim. According to the quality, more or less time is occupied in their completion: the coarser ones may be finished in two or three days, the finest take as many months. The best times for plaiting are when the atmosphere is moist, as in the

rainy season and the morning hours; in dry weather, and in the middle of the day, the straw is apt to break, which, when the hats are finished, is betrayed by knots, and diminishes their value.

The most remarkable features of the coast of Ecuador are the sudden changes in the aspect and climate of the country; places separated but a few miles differ widely from each other. At Guayaquil there are mangrove-swamps and impenetrable thickets; at Santa Elena aridity and a scanty vegetation; at Salango an atmosphere loaded with moisture, abundance of rain, and a soil densely covered with plants; at Manta a desert; and in the Bay of Atacamas again thick forests and plenty of rain. A graphic picture might be drawn of the western coast of America; there are all the contrasts a writer could wish for,—the inclement weather of the Polar seas, regions scorched by the sun, groves of beautiful timber, and arid deserts; the gloomy climate of Choco, and the bright sunny days of Lower California; the palm and the pine; the alligator and the walrus; free-men and slaves; negroes and whites.

On the 10th of October we anchored off Manta, and on the 13th a party went to Monte Christi, of which the former is the seaport. We passed the village of Colorado, a mere collection of huts, and had a very dusty ride. Monte Christi, a portion of which had been burnt down on the day of our arrival in the port, is built of bamboos; it is said to have 3000 inhabitants, but I should think that estimate too high. The surrounding country is a mere desert, and, except Indian corn and cassava, nothing is cultivated. The rainy season lasts from

December until the middle of March; after that time pasturage is so scarce that the cattle have to be fed on the bark of a tree (*Pachira* sp.) and some epiphytal *Bromeliaceæ*. Even the Jipijapa, the leaves of which are used by the inhabitants for making hats, does not flourish. All the vegetation we saw consisted of shrubby cotton-plants, a few cactuses, the Zapote de perro (*Colicodendron scabridum*, Seem.), and some Crotons.

On the 16th we left Manta, and, after visiting Punta Galena, directed our course to the Sua river, where we arrived on the 18th. Most of us paid a visit to the grave of Thomas Edmonston. The luxuriant vegetation had spread a verdant mantle over the tomb, and surrounded it with brilliant flowers. It was to all a sad recollection; many an expression of pity was uttered, and Mr. J. G. Whiffin, who was present on the occurrence of the accident which deprived poor Edmonston of his life, penned the following Acrostic:—

'T was from this beautiful and rock-bound bay
H eaven deem'd it right to call his soul away;
O ne moment's warning was to him denied;
'M idst life, and youth, and health, and hope he died.
A las! that boastful Science could not save
S o apt a scholar from his early grave.

E ven those who knew not of his private worth
D eplore his talents buried in the earth.
'M ong flowers that gem the softly verdant ground,
O'erspread with trees his grave is to be found.
N o crowd his resting-place shall ever view;
S till sad affection will induce a few
T o gaze where plants o'er which he lavish'd years,
O 'er him, now silent, shed their dewy tears,
N or seek to hide a grief denied to nobler biers.

At the village of Sua, about a mile inland, there are extensive plantations of sugar-cane, for manufacturing *aguardiente*. Tobacco is grown on a large scale, and smuggled into Nueva Granada, where that article is a government monopoly, and fetches a high price; oranges are abundant, and excellent in flavour; pine-apples, with leaves without spines, are cultivated on the sea-beach in great numbers.

On the 23rd we reached the mouth of the Esmeraldas. This river takes its rise in the Andes, and, although of considerable size, is full of shoals, and unfit for sea-going vessels. About six miles from its mouth is the town of Esmeraldas, a place containing about 4000 inhabitants, mostly negroes and zamboes. There are mines of emeralds in the vicinity, formerly worked by the Jesuits; but since the expulsion of that Order this branch of industry has been neglected; the popular belief is, that the places where the precious stones are to be found are haunted by evil spirits, which will probably continue to reside there until the Jesuits shall again establish their sway over the country.

On the 25th we set sail, and on the following day anchored off the island of Tumaco, where we proceeded to survey the river and bay of the same name. Our operations were much hindered by the rain, and excursions on shore were attended with difficulty, the ground being in many places a perfect swamp, and in others quite inundated, compelling us to wade through the water. On the island of Morro we obtained some excellent oysters for our table, and added a fine species of *Pholas* to our conchological collection. The town of Tumaco is a mere

village, with unpaved streets and houses of bamboo; it is well supplied with fruit, and exports timber, chiefly mangrove and cedro.

On the 3rd of November we visited the island of Gorgona, and two days after anchored off the Buenaventura, Bay of Choco, to finish the survey. This bay is probably the most rainy place on the globe, and its vegetation the most luxuriant that can be conceived. Our task being finished, we departed on the 10th, and, meeting with strong westerly breezes, reached on the 14th the island of Flaminco in the Bay of Panama, where we received despatches, letters, and newspapers from England.

CHAPTER XV.

Survey of the Coast of Darien—Garachinè—Bay of Ardita—Cupica—San Franzisco—Solano—Utria—Cape Corrientes—River San Juan—Return to Panama.

We remained in the Panama roads until the 1st of December, when we commenced the survey of the coast from Punta de Garachinè, in the Gulf of San Miguel, to the river San Juan. During this survey we had frequently bad weather, heavy rains, light winds, and the thermometer commonly at 84° and 86° Fahr. We took advantage of the intervals of sunshine in carrying out our operations, and constantly anchored in very deep water,—forty-four, fifty-four, fifty-six, sixty, and even sixty-two fathoms were often put down in the log-book. The coast is interesting as the scene of the trials of Pizarro and Almagro ere conquering Peru. It is still as the early voyagers described it: dense forests, drenched by torrents of rain, extend to the verge of the ocean, and human habitations are few and far between. The only change that seems to have taken place is in the character of the Indians: when the natives first

came in contact with Europeans they were warlike, and frequently engaged in skirmishes with them; to us they exhibited the other extreme,—they were shy, and, on seeing our vessels, fled into the woods, and only returned when they felt assured that we had no hostile intentions.

On the 3rd of December we reached Punta de Garachinè, where a party landed. Several of the marks erected in the previous year—large trees—had grown out again, and put forth shoots six feet long, so moist is the climate. On the 8th we were off Punta de Caracoles, and on the 14th off Punta de Piñas; at the latter place no inhabitants nor any traces of them were met with, although formerly it was thickly peopled. Continuing in a southerly direction we reached, on the 20th, the Bay of Ardita. On shore there were several canoes, and in some of them we found fresh plantains, but not a soul was to be seen. The following day however a canoe, with a white flag, came to the ship, carrying four Indians and two negroes. One of the former introduced himself as the alcalde of the village of Jorado: he had a stick with a silver knob, and was the only one who wore any dress; his companions were in the Adamite costume. They brought plantains, sugar-cane, eggs, and parrots for barter, and in a short time had disposed of everything. The alcalde told us that three rivers emptied themselves into the bay—the Ardita, the Jurador, and the Bocorichichi.

On the 28th we anchored in the Bay of Cupica, one of the finest natural harbours on this coast of Darien. The alcalde of the place, an Indian, seemed to be an intelligent man, and, as he spoke Spanish fluently, we

obtained from him much information; we also told him of our pacific intentions, that he might inform the inhabitants, who, it appears, had fled into the interior. He knew all about the close approach of the river Naipipi, a tributary of the Atrato, to the Bay of Cupica. Captain Kellett and Lieutenant-Commander Wood went afterwards to test the fidelity of his accounts, and after walking several hours they came to a river, which they supposed or were told flowed into the Atlantic Ocean. If such was really the case, it might afford facilities for constructing a canal to connect the two seas; indeed a company is now forming in London for the purpose of carrying out this project, and it is with regret I am compelled to confess that I possess no data which might enable me to pronounce an opinion on the feasibility of the scheme. Captain Kellett never spoke on the subject, probably because he was not certain whether the river that the party reached actually flowed into the Atrato, and that portion of his journal relating to Darien is unfortunately wanting; Mr. Trollope, the assistant surveyor, had at the time a severe attack of fever; Mr. Wood's account, as given in several publications, is all I know about it. The land around the Bay of Cupica is hilly, but how far in the interior the country has the same character we had no means of ascertaining; the vapours continually hanging over the dense forests preclude a distant view. The rainy season lasts almost throughout the year.

On shore we found a small village, situated on the banks of the river Cupica. The houses were built upon poles and reached by ladders, like those in the Bay of

Choco; indeed this style of building may be traced from Guayaquil to the Gulf of San Miguel; from the latter place to Central America a different mode prevails. The Indians cultivate pine-apples, guayavas (*Psidium pomiferum*), plantains, cassava, otò (*Arum*), and maize. They told us that a long time ago there was a large town in the bay, which had been "swallowed up" by the sea; perhaps that town—if town it was—shared the fate of old Callao.

We made several excursions up the river Cupica, and were delighted with the luxuriance of the vegetation, and the vast groves of vegetable ivory (*Phytelephas* sp.). The "nuts" of this beautiful palm-like plant are now extensively used by turners, and converted into knobs for walking-sticks, buttons, toys, and various other articles. The Indians call this species, which is probably distinct from the one found on the Magdalena, *Antà*. It grows in low damp localities, principally on the banks of rivers and rivulets, and is diffused over the southern parts of Darien and the vicinity of Portobelo, districts which are almost throughout the year deluged by torrents of rain, or enveloped in the thick vapour that constantly arises from the humidity of the soil and the rankness of the vegetation. It is always found in separate groves, seldom or never intermixed with other trees or bushes, and where even herbs are rarely met with, the ground appearing as if it had been swept. In habit it resembles the *Corozo colorado*, or Oil Palm (*Elais melanococca*, Gærtn.),—so much so indeed that at first sight the two are easily mistaken for each other. Both affect similar localities, and have trunks which, after creeping along

the ground a few yards, ascend, and attain about an equal height; the leaves also resemble each other; and their fruit grows in a similar way, attached to short peduncles, and almost hidden in the axils. The habit, however, is nearly the only link that connects the *Anta* with the order of Palms: in flower, stamens, the organization of the fruit, indeed in almost every essential character, it differs so widely from that family, that it cannot but be separated, and united with *Pandaneæ*. The trunk creeps along the ground, and then ascends, seldom however higher than from four to six feet; it is always dragged down, partly by its own weight, partly by the acrial roots, and thus forms a creeping caudex, which is not unfrequently more than twenty feet long. The top is crowned with from twelve to sixteen pinnatifid leaves, the entire length of which is from eighteen to twenty feet. All the plants that I saw were dicœcious, the males being more robust, and their trunks higher and more erect than the females. The flowers of both emit a most penetrating almond-like smell, which attracts swarms of honey-bees, chiefly the stingless species inhabiting the forests. The male flowers are attached to fleshy spikes, which are from four to five feet long, and hang down; the female flowers appear in bundles, on short thick peduncles, and stand erect. The fruit, being a collection of drupes, forms large heads, and is at first erect, but when approaching maturity its weight increases, and when the leaf-stalks, which so long supported the bulky mass, have rotted away, it hangs down. A plant bears at one time from six to eight of these heads, each containing on an average eighty seeds, and weighs, when ripe, about

twenty-five pounds. The uses to which the *Antà* is applied by the Indians are nearly the same as elsewhere: with its leaves their huts are thatched, and the young liquid albumen is eaten; the "nuts" however are turned to no useful purpose. The Spanish Isthmians did not know, before I visited the Isthmus, that *vegetable ivory*, or *Marfil vegetal* as they call it, existed in their country; and although they have been told that with the produce of the groves of Darien whole ships might be loaded, no one has yet taken advantage of the discovery.

After leaving Cupica we passed, on the 1st of January, 1848, Cape San Franzisco Solano, and on the 3rd anchored in the Bay of Solano. The following day was an unfortunate one. The surf ran so high that landing and re-embarking were extremely difficult. In proceeding on shore in the dingy I was capsized, losing all I had in the boat, and had not the waves thrown me on shore I should have perished. Mr. Jago and Mr. Parkinson effected a safe landing, but in the evening they were unable to return to the ship; it was already dark, when, through the exertions of the first lieutenant, Mr. Maguire, they were brought on board. On comparing notes, it was found that on that day nearly every one had met with some accident, or had lost something, verifying the old proverb, "misfortunes never come alone." But none of us had been in a more critical position than Mr. Whiffin.

"Endeavouring," says Mr. Whiffin, "to pass from the beach of the Bay of Salano into a small nook separated from it by a bold, precipitous cape, where there appeared greater facility for a boat to land, a party of

officers, consisting of the surgeon, the purser, and myself, found it necessary to force our way along the edge of this headland, through the dense forest which crowded the summit. Each having with him a gun, no little difficulty was experienced in climbing up the steep slippery hill, and breaking through the creepers and hangers entangled amongst the trees and brushwood. The season of the periodical rains had but just concluded, and the succeeding few days of sunshine had been unable to evaporate the moisture with which the soil was sodden. Trunks of decayed trees, apparently sound, were strewed in every direction, and shivered into pieces on being kicked; while smaller trees, perfectly rotten, and only kept upright by the surrounding branches, crumbled in the hand that delusively grasped at them for support.

"Every five or ten minutes we had to cross small cascades, rushing down their rocky slippery courses, and either falling into the sea or losing themselves amidst some brushwood. Occasionally assisting each other to surmount the different barriers which impeded our progress, and converting each little mishap into a source of joke and amusement, we had accomplished perhaps two-thirds of the journey when we came upon one of those torrents to which I have alluded. It was larger than any we had yet met with, and certainly an ugly place to get over. The water ran lazily down a smooth, rocky inclined plane, from eight to ten feet wide, terminating about thirty feet below in a precipice upwards of a hundred feet deep, beneath which the sea dashed and roared violently.

"My companions, with the help of the overhanging branches, effected the stride safely; but in making mine I caught at a rotten stem—it powdered in my hand,—my foot slipped,—and oh! awful to think of, I found myself sliding at a rapid pace down the slimy declivity into the foaming pit. Thoughts of all kinds crowded into my mind; home—friends—the horrid death awaiting me—all were instantaneously reviewed. My impetus increased; in vain I relinquished my gun; in vain I tried to clutch the slippery, watery slab of rock; in vain I endeavoured to plant my heels in some inequality—all was of no use: my fate appeared certain. Providentially my faculties were spared me, with even more than their wonted power. Still sliding, still nearing the awful brink, striving to retard my descent by all the muscular pressure in my power, I descried, on the opposite side of the watercourse to that on which I was, a small twig shooting between the fissures of the rocks. Oh, thought I, that it were on this side! that switch might save me! But how can I ever reach it? However, it was my only chance,—the only ray of hope which deterred me from resigning myself to destruction. By an instinct almost incredible, (I have not the presumption to term it presence of mind,) I so twisted my body as to give it the direction requisite to enable me to gain the desired object. I approached nearer—nearer,—but when about to grasp it new apprehensions seized me. Would it hold me?—was that also rotten?—would not my weight and the force I had acquired either break it or root it up? No! I clutched it—it held; I tightened my grasp, looked up, and saw my

two companions standing, as if transfixed, at the edge of the declivity. They rushed towards me, and with their promptitude and assistance I was soon extricated from my perilous situation, and conducted to a place of safety, where my head, for the first time, whirled with dizziness. At this moment my hat fell off, and slid down the slope into the gulf beneath, as if to impress upon me the horrible death from which I had been rescued."

Solano is a beautiful bay, with deep water, plenty of fish and wood, and a great quantity of wild cocoa-nut palms. The latter are found on the whole coast of Darien, in places where no human beings or any signs of them were to be seen,—thus corroborating the opinion of Martius, that the Isthmus of Panama is their native country, and that thence they spread over the tropical regions of both hemispheres.

Steering southwards, we were on the 9th of January off the Bay of Utria, a fine natural harbour, which seems to have been unknown to geographers previous to Captain Kellett's survey; indeed the western coast of Darien, which was formerly a mere straight line in our charts, has, since the expedition of the Herald, assumed a different aspect, and is found to possess excellent ports and shelter for both small and large vessels. On the 13th we anchored off the river Nuqui. There was only a single white man living at the place, and he was an Englishman; all the other inhabitants were Indians, who spoke the same language as those at Cupica.

On the 16th we arrived off Cape Corrientes, a pro-

montory easily distinguished by its dome-like mountain, the Janano, and, on coming from Chirambira, by its being the first high land seen by the voyager. We landed several times at this cape, but from that place until we reached the river San Juan we were prevented from going on shore, as the surf ran so high that it was dangerous to risk a boat in the attempt.

On the 28th we dropped anchor off the island of Chirambira, and for several days were employed surveying the mouths of the San Juan, one of the largest rivers in Darien. It is to be regretted that Captain Kellett was prevented from exploring this fine river, especially as it is known to approach the Atrato within a few miles, and, if reports may be relied upon, is actually connected with the latter by a canal, by means of which canoes pass from the Atlantic to the Pacific. The San Juan has several mouths, the principal one of which is between the islands of Cacagual and Chirambira. In Chirambira there is a small village, where we found a Spaniard who was distilling *aguardiente*, for which, as he informed us, there was a good market on the banks of the river.

Having connected the survey of the Bay of Panama with Punta Chirambira, where our survey of the Bay of Choco had been discontinued, and thus finished the delineation of the coast of Western South America, we set sail on the 1st of February for Panama, and, after paying another visit to Cape Corrientes, we reached our destination on the 12th.

There was a Frenchman at Panama who had a number of honey-bees, which he had brought from Europe,

and was going to take to Peru. With great trouble and expense he had succeeded in conveying the hives as far as the Isthmus, but most of the bees had died on entering the tropics, and their number was daily decreasing. It was the second time that he had attempted to introduce these valuable insects into Peru, and he had already lost a considerable sum of money in his fruitless endeavours. The Peruvian government had granted him a patent for six years, and he thought that if he could only get a few of the bees to the elevated regions of the Andes, all his outlay would soon be repaid.

Mr. Stephens, the enterprising American traveller,—to whom I was introduced by Mr. Nelson, the United States' consul,—was staying at the time at Panama; he had been sent by some company to make arrangements about the Californian steamers which were to run between Panama and San Francisco. Mr. Stephens is just such a man as one would fancy him to be from reading his works: he is of middle height and very active; his face shows much determination, and has a military air, which perhaps is in some measure owing to his wearing moustachios.

Towards the end of February the Herald sailed to survey the coast westward of Punta Mala, the islands of Coyba and Quicara, and the approaches to the port of Boca Chica, while I made a journey through parts of the province of Panama and Veraguas, visiting Chorera, Natà, Santiago, and David. The whole expedition returned to Panama towards the end of April; but I shall omit the narrative of these proceedings, as they would lead the reader into a maze of details, and give instead

a general sketch of the Isthmus of Panama*, which, incomplete as it is, will most probably be acceptable at a time when the narrow neck of land which connects the two Americas is beginning to excite the attention of the commercial world, and when millions of British capital are about to be, or are already, invested in roads, railways, and canals across that country.

* This sketch was originally written for my 'History of the Isthmus of Panama,' and is here inserted in consequence of the numerous applications for information which I have had from persons connected with the various companies projected, or already formed, for carrying out an inter-oceanic communication.

CHAPTER XVI.

Geographical Position of the Isthmus of Panama—Boundaries—Extent of Surface—Coast—Islands—Tides—Charts and Maps—Rivers—General Aspect of the Country—Geology—Metals—Gold-Mines—Salines—Volcanoes—Earthquakes—Hot Springs—Climate—Winds—Waterspouts.

The Isthmus of Panama lies between the 4th and 10th parallel of north latitude, and the 77th and 83rd of west longitude; it belongs politically to the Republic of New Granada, and comprises the provinces of Panama and Veraguas and the territories of Darien and Bocas del Toro. Its least breadth, from sea to sea, is twenty-seven miles, and its configuration that of a bow, the coast of the Caribbean Sea forming the convex line, that of the South Sea the concave. Bounded on the north and north-east by the Atlantic, on the south and south-west by the Pacific Ocean, on the east by the rivers Atrato and San Juan, and on the west by the Republic of Costa Rica, it presents, including the adjacent islands, a surface of 34,000 square miles—an extent of territory nearly equal to that of Portugal.

The coast on the Atlantic side extends from Costarica to the river Atrato—three hundred and sixty miles. Its most western part is formed by the Lagoon of Chiriqui, an oblong bay, in which the port of Bocas del Toro is situated. Thence eastward lies the river Belen, where Columbus in his fourth voyage tried to establish a settlement, and, in lat. 9° 18′ 6″ north, long. 79° 59′ 2″ west, the port of Chagres, the most frequented on this side the Isthmus: the port itself is an open roadstead, and its inner harbour, on account of a rock, is difficult to enter, and fit only for vessels of small burden. Much superior to it is Portobelo, situated in lat. 9° 34′ 29″ north, long. 79° 43′ 40″ west. Still following an easterly direction we come to the Bay of Limones, or Navy Bay, as some navigators term it. "At the entrance," says Mr. J. A. Lloyd, "it is about five miles wide, and can be approached without danger by day or night, in any weather; its opening is due north. On the western side several projecting points afford secure and commodious anchorage. The bottom of the bay curves regularly, and is bounded by a beach of very tenacious sand, and beyond by a bank, which is raised a few feet above high-water mark, and formed of shells thrown up by the surf. About three miles from the east point of the bay the land falls back in another deep curve, within which is Mazanilla, an island a mile and a quarter long and a mile broad, forming a fine channel with the mainland, with excellent anchorage for large ships for some distance within its entrance, and shelter for smaller vessels to repair or careen, in a large lagoon enclosed between the mainland and the south-

eastern end of the island. The depth of the water in the bay decreases regularly from six fathoms to three, and one and a half even close to the shore." Passing the ports of Bastimentos and Retrete, more famous for the tragical events connected with them than for commercial advantages, we reach the Puerto de Escoces, deriving its name from the Scottish colony that once stood there. Thence the coast takes a southerly direction, and forms, in conjunction with that of the province of Cartagena, the Gulf of Darien or Uraba, known in history as that part of the Isthmus first discovered and inhabited by Europeans.

The line which the coast of the Pacific describes, extending from the river Chiriqui Viejo to the mouths of the San Juan, is six hundred and sixty miles in length. The shores are, generally speaking, bold and rocky, as far as Cape Corrientes, but thence to Chirambira flat, rising only a few feet above the sea-level. There are several ports and natural harbours. The most western is Boca Chica, the principal seaport of the canton of Alanje (Chiriqui), situated in lat. 8° 13′ north, long. 82° 13′ 30″ west, but the place of embarkation for goods is in lat. 8° 21′ 43″ north, long. 82° 26′ west. The passage to the latter is fit only for vessels of small dimensions, and leads through a perfect maze of mangroves at the mouths of several rivers, which empty themselves into the sea through three channels, the Boca Chica, the Boca del San Pedro, and the Boca Brava. The Boca Chica is best adapted for coasting-vessels, but the Boca del San Pedro, if surveyed and buoyed, would probably be far easier and more expeditious. Traversing the coast in an easterly

direction, we find Bahia Honda, a fine natural harbour, Montijo, the seaport of Santiago de Veraguas, and, on entering the Bay of Panama at Punta Mala, the ports of Aguadulce, San Carlos, Chorera, and Perico. Perico, as that of Panama is called, is an open roadstead, ill adapted for a packet-station; ships of even less than three hundred tons have to lie two miles seaward, and, in order to procure water, are obliged to proceed to the island of Taboga. The site of the city was evidently chosen more for its security against attack than for the convenience of commerce, yet, as it is free from violent winds, the anchorage is secure. The coast, from Panama to the Gulf of San Miguel, is low, muddy, and destitute of ports. The Gulf of San Miguel, where Balboa first embarked on the South Sea, is a spacious basin, in which a number of rivers empty themselves. Its entrance is limited by two points, Punta Brava and Punta de Garachinè; the latter and Punta Mala form the Bay of Panama. The Pearl Islands are nearly in the centre, thus leaving two passages for entering. Navigators prefer the western during the wet, the eastern during the dry season; the eastern passage however has in its fairway the disadvantage of the shoal of San José, in the middle of which Captain Kellett discovered a rocky patch with less than three feet water upon it. From Garachinè southwards are the Bays of Piños, Ardita, Cupica, San Franzisco Solano, and near Cape Corrientes that of Utria, all of which offer fine accommodation for shipping, and will be of importance when the country is more civilized and more thickly peopled, and has fairly become that for which nature seems to have destined it—the highway of the world.

The coasts are fringed with numerous islands. The largest on the Atlantic side are the Escudo de Veraguas, and those situated in the Lagoon of Chiriqui; others, of a smaller size, generally known to the voyager by the name of Cayos, or keys, are scattered along the shores, and form occasionally, as in the case of the Sambaloes, regular chains. The latter group comprises the Isla de Piños, the Golden Island, and various others, well known from being connected with the early history of the country. All however are but thinly peopled, and at present not much frequented by foreign vessels.

Of greater importance are the islands in the Pacific Ocean. Several groups, Secos, Paredez, Ladrones, and Contreras, are situated on the south-western coast of Veraguas, and another cluster, of which Coyba, Gobernadora, and Cebaco are the largest, in the Bay of Montijo. Coyba,—or Quibo, as it is incorrectly spelt by foreigners,—the most extensive, is twenty-four miles long, fourteen broad, and well supplied with wood and water. Until lately it was uninhabited, and only visited at certain seasons by pearl-fishers, and would probably have remained in that state had not the attention of the New-Granadian Government been suddenly directed to it. The survey of Coyba by H.M.S. Herald, and the proposal of a North-American Company to purchase the island, seemed to be so many proofs of its value, and at last, in 1848, the executive power thought it necessary to form a settlement, and sent soldiers to hoist the flag of the Republic. The Pearl Islands, also known by their synonyms of Islas del Rey, Islas del Istmo, and Islas de Colombia, are valuable from the number of pearls annually

collected on their shores; they form a little archipelago at the entrance of the Bay of Panama, and are composed of sixteen islands and several rocks. San Miguel is the largest, San José, Gonzales, Saboga, Pacheque, Casayos, and Contadora, are of secondary, the rest of minor magnitude. Smaller, but scarcely less important, is the group in the vicinity of Panama, consisting of Perico, Flaminco, Otoque, Taboguilla, and Taboga. The latter is one of the most delightful spots in the bay. In its centre rises a hill about a thousand feet high, which is cultivated nearly to its summit with useful fruits and vegetables, and sends down streams to the valleys, where, amidst cocoa-nut palms and tamarind-trees, the habitations of the natives are almost hidden. When walking among the orange-groves, and seeing the trees loaded with delicious nisperos, alligator-pears, and mangoes, or the sides of stony hills covered with fields of pine-apples, fancy almost transports the stranger into some fairy garden.

The difference of the tides between the two oceans is great: on the Atlantic side, at Chagres, the mean elevation is 1·16 feet, while at Panama the highest flow is twenty-two feet, and it was stated by Mr. J. A. Lloyd that it rose even to twenty-seven feet. This statement however has not been corroborated by the observations of the expeditions of H.M.SS. Sulphur and Herald; but as so accurate an observer as Mr. Lloyd is not likely to have made so gross a mistake, it is but fair to conclude that he must have witnessed an additional rise of five feet, caused by some other force than the tide, —perhaps strong winds, or some of those earthquakes which occur at sea, and often cause a rising on the

adjacent coasts. For the remarkable difference which exists between the two oceans it is not easy to account satisfactorily; it is probable that Panama, at the head of a deep bay, receives the sudden check which the water must meet, and that thus the great rise is produced. This hypothesis appears to be in accordance with the fact that the tide rises at Taboga nineteen feet, at Saboga (one of the Pearl Islands) fifteen feet, and at other places outside the Bay of Panama only twelve and eleven feet.

The hydrography of the Isthmus is almost complete. A part of the northern coast was surveyed in 1828 by Captain Henry Forster, in H.M.S. Chanticleer, and a considerable portion of the southern during the years 1837, 1838, and 1839, by Sir Edward Belcher, in H.M.SS. Sulphur and Starling. The remainder of the Pacific side was finished during 1846, 1847, 1848, and 1849, by the Herald and Pandora, by which the whole coast was explored, from the river San Juan to Point Burica, thus completing the survey of the south-western shores of America, a distance of four thousand miles, the charts of which will remain a monument of the eminent services rendered by the British nation to the science of geography. Of the interior no general map, founded upon astronomical or trigonometrical observations, is in existence.

A country like the Isthmus, visited by such heavy rains, abounds in rivers: not counting the smaller and periodical streams, their number cannot fall short of two hundred. Of those emptying themselves into the Atlantic Ocean, the Belen, Veraguas, Chagres, and the nine-mouthed Atrato are the largest; among those flowing into the Pacific, the Chiriqui, Tavasara, Santa Maria,

Rio Grande de Natà, Bayano, Churchunqui, and San Juan. They are mostly shallow, and only navigable in flat-bottomed canoes. The Chagres was formerly called Rio de los Lagartos, and, according to Herrera, first explored in 1527 by Captain Hernando de la Serna and the pilot Corzo; it has been more accurately surveyed by Mr. Lloyd, who has given, in the journal of the Royal Geographical Society of London, the following description:—

"The Chagres takes its rise a considerable distance east of Portobelo, among the high mountains which approach the Bay of Mandingo, and, after traversing a great tract of country, when nearly opposite Portobelo receives the Rio Pequeni, which comes from the south-east, and is as large and broad as itself. The two form a noble river, too rapid however to be easily navigable, and, although canoes ascend both branches in the dry season, even above the common point of junction, the passage is considered dangerous from the number of falls and rapids. In proportionate distances its rate abates. At Cruces, which is twenty-three miles direct from the sea, and forty-four as the river winds, it seldom exceeds three miles or three miles and a half an hour, even in the rainy season; at Peña Blanca it runs two miles, at Gatun scarcely one, and at Brusa, in summer, the current is imperceptible. Few rivers of its size present more beautiful scenery than does the Chagres above Cruces: for miles together it is bounded by abrupt masses of limestone, of the most curious and fantastic forms; in other parts savanas extend to the very edge of the river, and the noble bongo-tree studs the banks. In most places the river is shaded by the higueron (*Ficus* sp.), a large tree which extends its

branches across the river. The water generally runs over a bed of various kinds of pebbles, and is in summer brilliantly clear. In many places near its source it is much wider than at its mouth, occasionally breaking into distinct channels, and forming islets, but in the rainy season these are all connected, and constitute one broad stream, with strong sets and eddies, caused by the abrupt turns, rendering its navigation peculiarly perilous. Many years ago, from continued rains, the river rose until it arrived at the foundation of the church of Cruces, situate on a small rise, forty or fifty feet above the present level; the greater part of the village was submerged, and for some weeks no intercourse, except by canoes, could take place. Towards its mouth it has never been known to rise more than six or eight feet, and this height the banks easily confine."

The rivers Atrato and San Juan approach each other within a distance of four hundred yards, nearly separating the Isthmus from the continent of South America, and forming the natural and political boundary of the country under consideration. The Atrato, or Darien, is described as a river full of shoals, dangerous to pass even for canoes: if small steamers could navigate it, this part of the Isthmus might be the most practicable for cutting a canal. Another close approach of rivers exists between the Chagres and the Rio Grande de Panama, of which due advantage has been taken in some of the projects for connecting the two oceans. Most of the rivers have deltas, which, in many instances, have the appearance of islands; their vegetation is a mixture of littoral and inland plants, and often exhibits species of the higher

mountains, by which the remote sources of the water may be traced.

The Isthmus is not remarkable for high mountains. The chain of the Andes, after traversing the continent of South America, diminishes in approaching it, and in the province of Panama is hardly recognizable in a ridge of hills which seldom exceed a thousand feet in height. The statement that the Cordillera is entirely broken in the vicinity of Cupica in Darien rests on obscure authority. A new series of mountains seems to commence at Punta de Chame, which attains a greater elevation on entering the province of Veraguas, and in the volcano of Chiriqui produces the most elevated part of the Isthmus, a peak seven thousand feet high: this ridge is covered with forests, and chiefly confined to the centre and northern parts of the country. The districts on the coast of the Pacific Ocean, especially the cantons of Natà, Santiago, and Alanje, abound in grassy plains (*llanos*) of great extent, which, in affording pasture to numerous herds of cattle, constitute the principal riches of the country. I have been informed, by persons on whose veracity I can rely, that from the tops of the mountains situated between Bocas del Toro and the town of David, both oceans may be seen at once,—a sight only equalled in grandeur by that presented in Behring's Strait by Asia and America. During the whole of my stay in the elevated parts of Veraguas, either the coast of the Atlantic or that of the Pacific was enveloped in mist, so that personally I have not been able to corroborate the statement; that they may actually be seen I consider probable, as in Central America, where the breadth of the land

far exceeds that of Veraguas, Mr. Stephens distinctly observed both the Caribbean and the South Sea. The belief that from the mountains near Cruces the same spectacle is enjoyed, I have found to be incorrect, the elevation being far too low, and that from the circumstance of seeing the two oceans at once the name "Veraguas" is derived, I have endeavoured to contradict.

The geological formation is as yet imperfectly known. "In some parts auriferous porphyries and granites prevail, partially impregnated with iron pyrites, and enclosing here and there veins of felspar and basalt; in others argillaceous hornblende, slate of various colours, and chlorite. Auriferous quartz is observed in different places*." The soil consists of clay, more or less sprinkled with fossil sea-shells, gold, and iron. The districts in which the latter prevails are mostly sterile, and, if left in their natural state, produce hardly anything save grass for rearing cattle. Petrified exogenous stems abound in various parts of Veraguas, and about Santiago they are so numerous that the streets of that town are partly paved with them: the natives call them *chumicos petrificados*, and consider them portions of the Chumico (*Curatella Americana*, Linn.), but, although there exists a certain resemblance, it is difficult, from the stem alone, to decide whether they are identical. Bituminous slate, indicating in many instances the existence of coal, has been discovered in the island of Muerto,

* E. Hopkins's Geological Character of the Isthmus, MSS.—This account was written at Panama by Mr. Hopkins when in the service of the New-Granadian government. A Spanish version of it has, I believe, appeared at Bogotà.

near David. Salines of some extent are established at Agua Dulce, in the canton of Natà, and their produce is sufficient to supply the demands of the Isthmus; another salt-spring has been found in the vicinity of La Mesa, which, according to popular statements, presents some extraordinary phenomena, deserving the attention of future travellers.

Copper, iron, and gold are found all over the country; no indication of silver has as yet been discovered, and the existence of quicksilver near Panama is doubtful. The working of the iron and copper is impracticable, on account of the high price of labour, and will remain so as long as the country is thinly inhabited. From the quantities of gold collected by the first settlers, the Isthmus received the name of Castilla del Oro, but, when the wealth of Peru and Mexico became known, this appellation seems to have fallen into disuse. Still, as long as the Spaniards retained possession of it, the extraction of gold was carried on to some extent, and it appears that some of the mines were very productive: the most important were, and still are, those of the Mineral de Veraguas. The gold is found there on plains, and large pieces are also obtained from the beds of rivers and rivulets. Up to the year 1804 the revenue which the provincial treasury collected from the royalty of three per cent. amounted annually to half a million dollars, a considerable sum, if it is borne in mind that large quantities were sent away without payment of duty; since that time however the produce has decreased, as some think, because the great deposit has been exhausted, or, as others contend, because the mines are not worked with

energy. The mines of Estrella in Chiriqui, and Cana in Darien, were celebrated, and still hold a place in the traditions of the country. The latter were closed by command of the King of Spain, to prevent, it is said, the inroads of the Buccaneers. A few years ago their rediscovery was much discussed at Panama, and expeditions started in search of them; but, the site being imperfectly known, they failed in accomplishing their object. The sand of the sea-beach near Panama, and even the soil on which the city is built, contains gold-dust,—about as much as will enable one man to extract daily three or four reals' worth; the process however being rather laborious, it is not much resorted to. Gold-washings are established all over the country, but, although important to single individuals in the absence of other employment, they are too insignificant either to engage the attention of foreign companies, or to allow of the investment of large capital.

Volcanoes, all now extinct, exist in different parts. The highest is that of Chiriqui, already mentioned; another, of considerable elevation, about three thousand feet high, the Janano, is seen at Cape Corrientes in Darien, and several others of great size are reported to exist in Veraguas. "Even the island of Taboga," says Mr. E. Hopkins, "appears to have been a portion of a volcanic crater. It is a broken sedimentary clay-slate, lifted on the southern side, and declining towards the bay, with its points and fractures filled with melted ferruginous rocks, large masses of which are seen bordering the bay. From the general aspect, and the great depth of the latter, one is led to suppose that it was the focus of

exemption." But although without active volcanoes, the Isthmus is by no means free from earthquakes. They occur mostly during the dry season, from January till May, and consist of undulating movements, coming from the west, and having apparently their origin in Central America,—a supposition strengthened by the fact that they are more severely felt in Veraguas than in Panama or Darien; they do not however seem to exercise any prejudicial influence on the vegetation, as is the case in Peru, where, after severe shocks, corn-fields have been known to wither. Hot springs are to be found in various parts of the country, and are much used by the natives as medicinal baths. One, named Agua de Salud, is near the village of Calobre, in the canton of Santiago; others are to be met with at Caldera in Chiriqui, and Cape Corrientes in Darien: none of them have as yet been subjected to a chemical analysis.

The geographical position of the Isthmus, the almost entire absence of high mountains, and the vast extent of forests and other uncultivated parts, tend to produce a hot and rainy climate, which nevertheless, with the exception of a few localities, such as Chagres, Portobelo, and Chirambirà, is healthy and more favourable to the constitution of the Caucasian race than that of most tropical countries. The most prevalent disease is intermittent fever, which makes its appearance during the change of the season; remittent fever is less frequent, but generally proves fatal to the patient. Cutaneous eruptions of a dangerous character are common, especially among the coloured race, and in those districts where there is the greatest fall of rain. Persons newly

arrived from northern climates are frequently subject to ulceration: on entering the country their skin, particularly that of the legs and feet, assumes an unusual degree of irritability, and the slightest scratch, or even a mosquito-bite, will often produce ulcers and sores, which take months to heal, and always leave upon the place a disagreeable bluish hue. Elephantiasis and paralysis, the bane of Spanish America, do not occur so frequently as in the elevated regions of the Andes, where indeed, from whatever cause, they prevail to a frightful extent. The cholera has visited the Isthmus on different occasions, but that disease has shown itself in temperate and torrid zones, in dry and in wet localities, in places built on the summits of high mountains, as well as in those situated in the lower coast-region; in fine, it has ravaged districts which in physical constitution differ most widely from each other, so that we may fairly conclude that climate and geographical position, however they may modify its character or increase its violence, cannot be considered as its causes*.

The seasons are regularly divided into wet and dry. The rains are expected with the new moon in April, and continue eight months, till the end of December; in the south of Darien however, and some places on the Atlantic Ocean, they are prolonged to ten and even eleven months. Slight at first, the rain gradually increases, and is fully established towards the end of May, when it falls in torrents, sometimes for days in succession, and

* A most ingenious explanation of the cause of the cholera was made known on September 24, 1852, at Wiesbaden, by Dr. Nees von Esenbeck, which has since been published in a separate pamphlet.

is mostly accompanied by thunder and lightning of the most terrific description. The air is loaded with moisture, and fogs with calm or light variable winds prevail. The temperature does not vary more than from 75° to 87° Fahr., still, the perspiration being impeded, the atmosphere feels extremely hot and close. In the height of the wet season, about midsummer, generally on the 20th of June, the rains, as in other parts of South America, are suspended for a short time; for nearly a week subsequent to that day, the sun shines with great brightness, and the sky is clear and serene. The occurrence of the phenomenon is so regular that it is looked forward to by the inhabitants, who call it the "veranito de San Juan," probably from its taking place almost simultaneously with the feast of St. John (June 24th). Towards the end of December the violent rains are less frequent, the clouds begin to disperse, and with the commencement of the new year the north-west wind sets in. An immediate change follows. The air is now pure and refreshing, the sun brilliant, the sky blue and serene, hardly a cloud is to be seen, and the climate displays all its tropical beauties. The heat, although much greater, ranging between 75° and 94° Fahr., is less felt, as the atmosphere is almost free from moisture; the rays of the sun however are very powerful, and the rise of the thermometer to 124° Fahr., when at noon exposed to their influence, is no uncommon phenomenon. These statements however have reference only to the lower regions; on the higher mountains the climate is modified, and, on account of its lower temperature, better adapted to the constitution of the white man.

During the dry season the climate agrees tolerably well with a European. But a summer day in Europe and one in the Isthmus—what a difference! Night and day, from the vicinity of the country to the equator, are nearly always of equal length. Scarcely has dawn commenced when everybody is in action—it is the hour of business and bodily exercise; nature stands refreshed, and drops of dew hang on every leaf. Amidst a profusion of flowers, the stately palm waves its foliage, and gay-coloured birds, strongly contrasting with the azure sky, diffuse animation and life; in vain however does the Northman listen,—instead of the sweet melodies of nightingales and robins, the disagreeable cries of parrots and macaws strike his ear. Towards eight o'clock the heat begins to be felt, and that lassitude, for which the tropics are so well known, seizes everything. The further the day advances, the more is this influence perceptible: the leaves droop, the wood-pigeons, which all the morning sent forth their monotonous notes, are silent, the inhabitants have sought shelter from the scorching rays in the interior of their dwellings, all living beings are reposing, and a stillness prevails almost as profound as that of midnight. By degrees the heat becomes less oppressive, the breezes increase, and the cool air of the evening soon calls forth a new life. The forests now glitter with fireflies, crickets chant their merry tunes, and here and there are seen groups of people chatting and enjoying themselves. But nothing can exceed the beauty of the scene when the full-moon rises, shedding its silvery light over the broad foliage of the tropics; whatever may have been the fatigue of the day, what-

ever the body may have suffered from heat and languor, all is forgotten in the presence of this spectacle. Such nights indeed baffle description—they are the quintessence of equinoctial life.

The winds have mostly the character of moderate breezes; they are seldom violent, and hurricanes have never been known to occur. During the wet season they are very variable, but generally come from the south or south-west, and only assume some degree of regularity on the coast, blowing during the night from the land, and during the day from the sea; sometimes however calms prevail for several days in succession. In the dry season the prevailing wind is north-west, blowing regularly, and with more or less force, and only varying now and then a few points of the compass. It continues till towards the end of April, when it becomes less steady, alternating with calms and variable winds, and in the beginning of May dies away. Waterspouts occur on both coasts, especially during the wet season.

CHAPTER XVII.

Flora and Fauna of the Isthmus of Panama—Aspect and Character of the Vegetation—Useful, Noxious, and Ornamental Plants—Animals —Agriculture.

The aspect of the flora is much more diversified than the uniformity of the climate and the surface of the country would lead one to expect. The sea-coast and those parts influenced by the tides and the immediate evaporation of the sea produce a quite peculiar vegetation, which is generally characterized by a leathery glossy foliage, and leaves with entire margins. In all muddy places, down to the verge of the ocean, are impenetrable thickets, formed of mangroves, chiefly *Rhizophoras* and *Avicennias*, which exhale putrid miasmata and spread sickness over the adjacent districts. Occasionally extensive tracts are covered with the *Guagara de puerco* (*Acrostichum aureum*, Linn.), its fronds being as much as ten feet high. Myriads of mosquitoes and sand-flies fill the air; huge alligators sun themselves on the slimy banks, lying motionless, blinking with their great eyes, and jumping into the water directly any one approaches.

To destroy these dreaded swamps is almost impossible: the *Avicennias*, with their asparagus-like rhizomes, send up innumerable young shoots whenever the main stem is felled; the *Rhizophoras* extend, in all directions, their long aerial roots, which soon reach the ground and preserve the trees from falling, after their terrestrial roots have lifted them high above their original level. At Panama, where the tide rises to the height of twenty-two feet, these trees are frequently under water, the heavy surf washing their tops, apparently without injuring or checking their growth; indeed, so well has nature provided for them, that the seed of the *Rhizophoras* begins to germinate while the fruit is yet attached to the tree, and it is not until it has sprouted out to the length of some inches that it drops, as a young plant, into the mud below. Rivers, as far as they are subject to the influence of the ebb and flow, are full of mangroves, and the highest *Rhizophoras*, which, growing always on that side where there is the deepest water, assist the natives in conducting their canoes through the mud-banks. On the sand of the sea-beach the *Ipomœa pes-capræ* grows in wild luxuriance, producing runners often more than two hundred feet long. Higher up, where the ground is firmer, are groves of cocoa-nut palms, poisonous manzanillo-trees, and spiny *Prosopises* and pitajayas, or thickets of *Crescentia cucurbitina* and *Paritium tiliaceum*.

Far different is the vegetation of the savanas. The ground, being level or slightly undulating, is clothed during the greater part of the year with a turf of brilliant green. Groups of trees and bushes rise here and there; silvery streams, herds of cattle and deer, and the isolated

huts of the natives, tend to give variety to the scene, while the absence of palms and tree-ferns imparts to the whole more the appearance of a European park than of a tract of land in tropical America. The turf is almost as dense as in an English garden, and contains, besides numerous kinds of grasses, many elegant *Papilionaceæ*, *Polygaleæ*, *Gentianeæ*, and *Violaceæ*; the sensitive plant (*Mimosa pudica*, Linn.) prevails in many localities, closing its tender leaves even upon the approach of a heavy footstep. The clumps of trees and shrubs, over which the Garumos and Pavas are waving their large foliage, are composed of *Myrtaceæ*, *Melastomeæ*, *Chrysobalaneæ*, *Papilionaceæ*, *Verbenaceæ*, *Compositæ*, *Dilleniaceæ*, *Anonaceæ*, *Malpighiaceæ*, and *Acanthaceæ*, and overspread by *Convolvulaceæ*, *Aristolochiæ*, *Apocyneæ*, and other climbing or twining plants. *Orchideæ* are plentiful in the vicinity of the rivers, where the trees are literally loaded with them. The vainilla (*Vanilla* sp.) climbs in abundance up the stems of young trees, and often increases so much in weight as to cause the downfall of its supporters. The Chumicales, or groves of sandpaper-trees (*Curatella Americana*, Linn.), form curious features in the landscape; they extend over whole districts, and their presence indicates a soil impregnated with iron: they are about forty feet high, with crooked branches—an approximation to the twining habit of the tribe,—and their paper-like leaves, when stirred by the wind, occasion a rattling noise, which strongly reminds one of the European autumn, when northerly breezes strip the trees of their foliage.

Forests cover at least two-thirds of the whole terri-

tory. The high trees, the dense foliage, and the numerous climbing and twining plants, almost shut out the rays of the sun, causing a gloom which is the more insupportable as all other objects are hidden from view. Rain is so frequent, and the moisture so great, that the burning of these forests is impossible—a striking difference to those of the temperate regions, where a fire often consumes extensive woods in a short space of time. Flowers are scarce in proportion to the mass of leaves with which the places are crowded, and in no respect is the European more disappointed: from cultivating in his gardens none but the choicest and most brilliant flowers which the regions of the sun are capable of producing,—from seeing on the stage tropical scenery, which looks more like a representation of fairy-land than of sublunary places,—and from reading the highly-coloured accounts with which many travellers have endeavoured to embellish their narratives, his imagination has drawn a picture of equinoctial countries which a comparison with nature at once demolishes. The Espavè (*Anacardium Rhinocarpus*, DC.) and the Corotu (*Enterolobium Timboüva*, Mart.) are amongst the most gigantic trees, attaining a height of from ninety to one hundred and thirty feet, and a circumference of from twenty-four to thirty feet; and no better estimate can be formed of their size, than by an inspection of the port of Panama, where vessels of twelve tons' burden, made of a single trunk, ride at anchor. The forests occasionally consist of a single species of tree; but generally they are composed of different kinds, the principal forms belonging to *Sterculiaceæ*, *Tiliaceæ*, *Mimoseæ*, *Papilionaceæ*,

Euphorbiaceæ, *Anacardiaceæ*, *Rubiaceæ*, *Myrtaceæ*, and *Melastomeæ*; these, and the prevalence of palms, tree-ferns, *Scitamineæ*, and *Aroideæ*, stamp on them the real tropical character.

Mountains, exceeding 2000 feet in elevation, situated principally in western Veraguas, possess a vegetation which resembles in many respects that of the Mexican highlands; in it the forms of the torrid region are harmoniously blended with those of the temperate. Alders and blackberries are found with *Fuchsias* and *Salvias*; the brake grows in company with lupines and *Ageratums*; oaks and palms are intermingled; and large flowers are abundant. The genera represented are *Styrax*, *Rondeletia*, *Salvia*, *Lopezia*, *Fuchsia*, *Centradenia*, *Ageratum*, *Conostegia*, *Lupinus*, *Hypericum*, *Freziera*, *Galium*, *Smilax*, *Euphorbia*, *Rhopala*, *Equisetum*, *Clematis*, *Chorisia*, *Verbena*, *Condaminea*, *Inga*, *Solanum*, *Clethra*, etc. The oaks, like most tropical ones, are scarcely more than thirty feet in height, resembling neither in size nor in grandeur those which our heathen forefathers worshiped; their branches are smooth and devoid of that rugged appearance which renders those of the northern species so picturesque.

The Isthmus is rich in medicinal plants, many of which are known only to the natives, who have ably availed themselves of their properties. As febrifuges, they employ *Chicoria* (*Elephantopus spicatus*, Juss.), *Corpachi* (*Croton*), *Guavito amargo* (*Quassia amara*, Linn.), *Cedron* (*Simaba Cedron*, Planch.), and several *Gentianeæ*—herbaceous plants, which are known by the name of *Canchalaguas*. As purgatives they use the *Niño muerto*, or

Malcasada (*Asclepias Curassavica*, Linn.), *Frijolillo* (*Cassia occidentalis*, Linn.), *Cañafistola de purgar* (*Cassia Fistula*, Linn.), *Laureño* (*Cassia alata*, Linn.), *Javilla* (*Hura crepitans*, Linn.), and *Coquillo* (*Jatropha Curcas*, Linn.). Emetics are obtained from *Garriba de peña* (*Begonia* sp.) and *Frailecillo* (*Jatropha gossypifolia*, Linn.). As vulneraries they use *Chiriqui* (*Trixis frutescens*, P. Br.), *Guazimillo*, or *Palo del soldado* (*Waltheria glomerata*, Presl), and *Cope chico de suelo* (*Clusia* sp.). Anti-syphilitics are *Cardo santo* (*Argemone Mexicana*, Linn.), *Zarzaparilla* (*Smilax* sp. pl.), and *Cabeza del negro* (*Dioscorea* sp.). Cooling draughts are prepared from the Ferns, *Calahuala* (*Goniophlebium attenuatum*, Presl) and *Doradilla de palo* (*Goniophlebium incanum*, Swartz). Antidotes for the bites of snakes are found in the stem and leaves of the *Guaco* (*Mikania Guaco*, H. B. K.) and the seeds of the *Cedron* (*Simaba Cedron*, Planch.). Cutaneous diseases are cured by applying the bark of the *Palo de buba* (*Jacaranda filicifolia*, Don), *Nanci* (*Byrsonima cotinifolia*, H. B. K.), and the leaves of the *Malva* (*Malachra capitata*, Linn.).

The most dreaded of the poisonous plants are the *Amancay* (*Thevetia neriifolia*, Juss.), *Cojon del gato* (*Thevetia nitida*, De Cand.), *Manzanillo de playa* (*Hippomane Mancinella*, Linn.), *Florispondio* (*Datura sanguinea*, Ruiz et Pav.), and *Bala* (*Gliricidia maculata*, Kunth). It is said of the *Manzanillo de playa* that persons have died from sleeping beneath its shade, and that its milky juice raises blisters on the skin, which are difficult to heal: the first of these statements must be regarded as fabulous, and the second received with modifi-

cation. Some people will bear the juice upon the surface of the body without being in the least affected by it, while others experience the utmost pain, the difference seeming to depend entirely upon the constitution. Great caution however is required in protecting the eyes, for if the least drop enters them, loss of sight and the most acute smarting for several days are the consequence; the smoke arising from the wood produces a similar effect. While surveying on the coast of Darien, a boat's crew of H.M.S. Herald was blinded for some days through having kindled a fire with the branches of this tree. The natives, when affected by the poison, at once wash the injured part in salt water: this remedy is most efficacious, and, as the *Manzanillo* is always confined to the edge of the ocean, of easy application. It has been stated that the Indians of the Isthmus dip their arrows in the juice of the *Manzanillo;* there are however reasons for doubting this assertion: first, the poison is, like that of all *Euphorbiaceæ*, extremely volatile, and, however virulent when first procured, soon loses its power; secondly, its effect, even when fresh, is by no means so strong as to cause the death of human beings, not even producing, as has been stated, the slightest injury on some constitutions. The statement may therefore be considered inaccurate, and we may rather suppose that the Indians, like those of Guiana, obtain their poison from the two species of *Strychnos* common throughout Panama and Darien. The fruit of the *Amancay* (*Thevetia neriifolia*, Juss.) is also considered very poisonous, but its dangerous qualities have probably been overrated: there is a gentleman in Panama who, when a boy, ate four of

these fruits without experiencing any other effect than mere griping. The leaves of the *Bala*, or, as it is also called, *Madera negra* (*Gliricidia maculata*, Kunth), are used to poison rats. The *Florispondio* (*Datura sanguinea*, Ruiz et Pav.) appears always to have played, and still continues to play, a prominent part in the superstition of tropical America. The Indians of Darien, as well as those of Chocò, prepare from its seeds a decoction, which is given to their children to produce a state of excitement in which they are supposed to possess the power of discovering gold. In any place where the unhappy patient happens to fall down, digging is commenced; and, as the soil nearly everywhere abounds with gold-dust, an amount of more or less value is obtained. In order to counteract the bad effect of the poison, some sour *chicha de maiz*, a beer made of Indian corn, is administered.

Many indigenous plants bear eatable fruits, some of most delicious flavour. Several spontaneous productions are used as culinary vegetables. *Marathrum fœniculaceum*, H. B. K., a plant resembling some of the finer seaweeds, and growing in most rivers of Veraguas, is esteemed so highly by the inhabitants that they have called it *Passe-carne*, *i. e.* excels or surpasses meat; and, indeed, its young leaf-stalks, when boiled, have a delicate flavour, not unlike that of French beans. The leaves of the *Ñaju de espina* (*Peirescia Bleo*, De Cand.) are eaten as salad, either raw or boiled, like the young branches of several *Opuntias* in Mexico; and in a country where, from the nature of the climate, the rearing of lettuces is attended with difficulties, they form a tolerable substi-

tute. The foliage of the *Col de Nicaragua* (*Jatropha multifida*, Linn.) affords another culinary vegetable, losing, apparently, as do most *Euphorbiaceæ*, its poisonous qualities by boiling. The seeds of the *Chigua* (*Zamia Chigua*, Seem.), a plant abounding in the vicinity of Chirambirà, after having been boiled and reduced to a mash, are mixed with milk and sugar, and thus eaten; a kind of bread is also prepared from them. As condiments for esculent purposes, divers plants are used. The red berries of the *Malagueto chico* or *Malagueta hembra* (*Xylopia frutescens*, Aubl.) are substituted for pepper, especially by the negroes. The fruit of the *Vainilla* (*Vanilla* sp.) and *Vainilla chica* (*Sobralia* sp.) are spices employed in flavouring sweetmeats, chocolate, and puddings. The leaves of the *Toronjil* (*Ocimum*), a common herb, are chopped, and serve to replace our parsley. The most important however of all the aromatics to the Panamian cook is the *Culantra* (*Eryngium fœtidum*, Linn.); it imparts a flavour difficult for a foreigner to relish; but the inhabitants consider it indispensable, and are quite distressed when in the soups and sancoches their favourite condiment has by some accident been omitted.

Excellent timber for building, and wood for cabinet-makers' purposes, abound. Dyes the country produces several: a yellow one is obtained from the wood of the *Macano* (*Diphysa Carthaginensis*, Jacq.), a scarlet from the leaves of the *Hojita de teñir* (*Lundia Chica*, Seem.), a blue from the foliage of the *Añil silvestre* (*Indigofera Anil*, Linn.), a violet from the fruit of the *Jagua* (*Genipa*), a red from the pulp of the *Bija* or *Achotte* (*Bixa Orellana*, Linn.), and a black from the seeds of the *Ojo*

de venado (*Mucuna* sp. pl.). A brown colour might be extracted from the *Dichromena pura*, Nees ab E., which abounds in the savanas, and makes on cotton and linen a stain very much like that caused by the rusting of an iron nail, whence the vernacular name, *Clava*, a *nail*. The Indians of Southern Darien paint their faces with the colour obtained from the *Bixa Orellana*, Linn., or, as they themselves term it, *Bija*. The scarlet dye observed in the hammocks of Veraguas is not given with the purple shell (*Purpura patula*, Lam.), as the people of Panama assert, but with the leaves of the *Lundia Chica*.

The cordage which the Isthmians use is solely procured from indigenous plants. The best and whitest rope is made from the fibre of the *Corteza* (*Apeiba Tibourbou*, Aubl.). A brownish-looking rope, easily affected by dampness, probably because the tree from which it is taken has saline properties, is manufactured from the *Majagua de playa* (*Paritium tiliaceum*, Adr. Juss.). The *Barrigon* (*Pachira Barrigon*, Seem.) and the *Malagueto hembra* (*Xylopia frutescens*, Aubl.) also yield a fibre fit for ropes. The hammocks of Veraguas consist of the fibres of the *Cabuja* (*Agave* sp.), and those of a palm called *Chonta*. A strong fibre is contained in the leaves of the *Pita de zapateros* (*Bromelia* sp.), which is prepared like flax, woven into bags, or Chacaras, by different Indian tribes, and extensively used by shoemakers for sewing. The fibre surrounding the wood of the *Cucua* or *Namagua* forms a close texture of regular natural matting, which the natives soak in water, beat, and make into garments, beds, and ropes, or use as sails

for their canoes. The mats which the poorer classes use to sleep upon are manufactured from the fibre of plantain-leaves (*Musa paradisiaca*, Linn.).

Numerous vegetable substances are applied to miscellaneous purposes. An infusion of the leaves of the *Te* (*Corchorus siliquosus*, Linn.) is drunk instead of tea, and a similar preparation may be made from those of the *Freziera theoides*, Swartz, a shrub common on the volcano of Chiriqui. The aerial roots of the *Zanora* (*Iriartea exorrhiza*, Mart.), being clad with numerous spines, are used as graters; and although they are not so fine as those supplied by art, yet in a country where, from the humidity of the climate, tin ones soon get rusty, they are almost preferable: the natives chiefly employ them for grating cocoa-nuts, which, boiled with rice, compose one of their favourite dishes. The leaves of the *Papayo* (*Carica Papaya*, Linn.) are a substitute for soap. The wood of the *Balsa* (*Ochroma Lagopus*, Swartz), being soft and light, like cork, is used for stopping bottles: the never-sinking rafts, which, at the discovery of South America, caused such surprise among the early adventurers, were then constructed of it and are so still. The fruit of the *Palo de velas* or *Candle-tree* (*Parmentiera cereifera*, Seem.) serve to fatten cattle. The wool of various *Sterculiaceæ*, the *Balsa* (*Ochroma Lagopus*, Swartz), *Ceiba* (*Eriodendron Caribbæum*, Don), and *Barrigon* (*Pachira Barrigon*, Seem.), is employed for stuffing pillows, cushions, etc. Hedges are made of the *Ortiga* (*Urtica baccifera*, Linn.), *Poroporo* (*Cochlospermum hibiscoides*, H. B. et Kth.), *Pitajaya* (*Cereus Pitajaya*, De Cand.), and *Piñuela* (*Bromelia* sp.). The

hard shells of the *Crescentia Cujeta*, Linn., are turned into bottles, sieves, pails, spoons, and various other household articles. In catching fish by stupefaction, the natives avail themselves of the juice of the *Manzanillo de playa* (*Hippomane Mancinella*, Linn.), the bark of the *Espavè* (*Anacardium Rhinocarpus*, De Cand.), and the leaves of the *Barbasco* (*Ottonia glaucescens*, Miq.). Oil is obtained from the fruit of the *Corozo colorado* (*Elaïs melanococca*, Gærtn.), and wine, vinegar, food, habitations, clothing, and numerous other necessaries of life, from the different palms which inhabit the country. The leaves of the *Chumico* (*Curatella Americana*, Linn.) and *Chumico bijuco* (*Davilla lucida*, Presl) are used for cleaning iron, and for polishing and scouring wood; indeed, they serve all the purposes of sand-paper. From the *Jipijapa* (*Carludovica palmata*, Ruiz et Pav.) the far-famed Panama hats are plaited.

Nor is the flora destitute of plants which claim attention on account of their beauty, rarity, or singular configuration. The *Espiritu Santo*, or Holy Ghost plant (*Peristeria elata*, Hook.), bears a flower resembling a dove, and is, like the *Flor de semana santa*, another Orchid, almost held in religious veneration, and eagerly sought for when in blossom. The *Biura* (*Petræa volubilis*, Jacq.) is a flower of whose beauty those who have only seen it in conservatories can form but an inadequate idea: nothing can be more charming than the sight of whole groves overspread with the long blue racemes of this creeper, it almost baffles description. The *Palo de búbo* (*Jacaranda filicifolia*, Don) is another of those plants on which poets delight to try their

pen, and painters their brush: when this noble tree rises on the banks of the river, amidst the dark foliage of a luxuriant vegetation, and waves its large panicles in the air, the foot is involuntarily arrested, and one gazes for some time lost in wonder and admiration. There are also numerous plants which exhale a delicious perfume, and a long list of them could be cited.

America is generally divided into two zoological provinces, separated from each other by the barrier presented by the Mexican table-land. That these divisions are well characterized few are inclined to dispute; but, it may be asked, was or is the barrier sufficient to check the progress of species? Confining ourselves to the tropics, it is possible to migrate from Guayaquil to Mazatlan, which may be considered their extremes on the western coast, without a change of temperature of more than a few degrees, and without ascending mountains possessing a physical constitution different from that of the lower equinoctial region. That this passage has been adopted is evident from the presence of several South American species in Northern America; that many animals have passed the Isthmus without stopping is also proved; the armadillo, for instance, which indisputably belongs to South America, is found in no part of Panama, but again appears in the neighbourhood of Mazatlan, in lat. 23° 12′ 0″ north. It is no less evident that the migration of animals, if not otherwise restricted by change of food, etc., could have avoided the Mexican table-land, by pushing from the north along the Gulf of California, a route which, according to recent researches, was that taken by the Aztec nations in passing to the

plains of Anahuac*. The Isthmus therefore, in connecting the American continent, promotes not only the distribution of plants, but also offers facilities for the migration of animals, and without this passage many genera and species now common to both countries, would probably have been confined to one.

Mammalia are represented by a variety of forms. Hosts of monkeys, including the white-headed chapolin (*Cebus hypoleuca*, Gray), inhabit the woods. Bats are numerous: a kind of vampire is common, causing dangerous wounds in the cattle; *Diclidurus Freyreisii*, Gray, seems to be a bat peculiar to the Isthmus. The jaguar, or, as the natives call it, *Tigre* (*Felis onca*, Linn.), and the puma (*Felis concolor*, Linn.), vernacularly termed lion, are destructive to cattle, but seldom attack man. A grey opossum (*Didelphis* sp.), called *Gato solo* from its solitary habits, is frequent. Several kinds of cornejos, or squirrels, are met with. Rats and mice, in the Isthmus, as everywhere else, are the plague of the dwellings. The *Gato de pachorra*, here and there observed, is a sloth (*Bradypus didactylus*, Linn.). Sajinos are frequent, but merely eaten by the dogs. Pigs wander in herds about the forest, and are dreaded by the natives, who, when they meet them, seek safety in flight or by climbing a tree. The tapir (*Tapirus Americanus*, Linn.), the *Macho de monte*, *Danta*, and *Gran bestia* of the Panamians, is the largest terrestrial animal of the Fauna, though in comparison with the Asiatic species (*Tapirus Indicus*) a mere dwarf. Its

* I allude here to the investigations of my friend Don Fernando Ramirez in Durango.

flesh is eaten, but is insipid; medicinal virtues are ascribed to the hoof, which is administered for paralysis, and a decoction of it is taken by women after child-birth.

The only ruminant animal is the *Venado*, a species of deer (*Cervus* sp. nov.?), met with in herds in the savanas. Its horns are not simple, like those of *Cervus rufus*, Cuvier, a common Peruvian animal, but branched and divided. The venado is about three feet high, and when young spotted with white dots; this colour however soon changes into a light brown. The meat, very tough when fresh, becomes tender if kept awhile or boiled with papaya; the hide is converted into a soft yet durable leather, well adapted for boots in so hot a climate. The animal is easily domesticated: Mr. J. Agnew, a gentleman in David, had one which had been reared by a bitch and possessed the habits of a dog, eating meat, running about the house, and following its master. The people of Veraguas have a curious mode of hunting the venados. The bone of a pelican's wing is covered at one end with a peculiar kind of cobweb, which forms an instrument that will imitate the cry of a young deer so closely that the old ones, in the belief that some mishap has befallen their kid, repair to the place whence the sound proceeds, and are shot; the hunters frequently return with twelve or fifteen of them after one day's sport.

The sea on the Pacific shore is frequented by porpoises and blackfish, and the manati or sea-cow (*Trichechus manatus*, Linn.), one of the herbivorous *Cetacea*, or whale-tribe, occurs on the coast of the Atlantic: it was well known to the Buccaneers, who in times of scarcity were

compelled to subsist on it. The flesh is said to resemble beef in appearance, and to have the taste of pork: the skin of the back, says an old author, is two fingers thick, and when dried becomes as hard as whalebone and may serve to make walking-sticks.

Birds exist in great numbers. The humming-birds, macaws, and parrots are distinguished for the beauty and brilliancy of their plumage; pigeons, partridges, and turkeys for the delicacy of their flesh; while the galinazos (*Discoloplus cristatus*), pelicans, and others, attract attention by their singular features and habits.

Reptiles abound. The scales of the turtle form an article of commerce. At the time of the discovery of the country the Spaniards evinced a great repugnance to the iguanas (*Lacerta iguana*, Linn.), and expressed disgust at beholding the Indians eating them; this feeling is now overcome, and the eggs as well as the flesh of these animals are considered as delicacies. It is not the only instance in which such a change has been effected: the use of tobacco, another Indian practice, was equally disliked, now no people indulge more in it than the Spaniards and their descendants. Alligators are numerous on the mouths of rivers, where they are found sunning themselves on the muddy banks; it is amusing to see how motionless they lie, listening to any noise and blinking their great eyes, but immediately any one approaches they jump into the water. Some of these animals are from fourteen to eighteen feet long. Their eagerness to attack man has often been asserted, but there is reason to believe that they are cowards, like most animals belonging to the lizard-tribe.

I have only heard of a single instance of a person having been bitten, and that happened during the night, when he was wading through a rivulet. In the Rio Grande de Panama children may be seen bathing when around them there are numerous alligators; if the animals were as rapacious as they are represented, such risks would undoubtedly be avoided.

Both land and sea snakes occur; the former are sometimes eighteen feet long. The Coral, zonated scarlet and black, the Vivora, variegated black and brown, and the Voladora, or flying-snake, of a lively green colour, are considered the most venomous. The voladora lives in trees, darting with rapidity from branch to branch, which, having the appearance of flying, has given rise to the vernacular name. Before the *Cedron* was known many deaths occurred from the bite of snakes. The people used to wear—and in some parts of the country still wear—suspended round their necks or legs an alligator's tooth as a charm against them. I saw once a boy who had expired two hours after having been bitten, and in the afternoon the body was swollen to at least double its former size, presenting a frightful appearance: great caution is therefore necessary. Fortunately the presence of a snake is generally known before the animal is seen or heard: this the natives attribute to a smell peculiar to these reptiles, but as the smell is not perceived by Europeans, and yet the presence of the snake is known by them, it must be ascribed to some cause yet to be explained. Toads, and other frog-like animals, are most numerous during the wet season. A very minute species, beautifully spotted with black and red, is said to be

used by the Indians to poison arrows. The abundance of toads about Portobelo has often been noticed: "So prodigious is their number after rain," says Mr. Lloyd, "that the popular prejudice is that the rain-drops are changed into toads ('de cado goto viéne un sapo'); and even the more learned maintain that the eggs of this animal are raised with the vapour from the adjoining swamps, and, being conveyed to the city by the rains, are there hatched. The large size of the animals however—many of them being from four to six inches in breadth—sufficiently attests their mature growth in more favourable circumstances. After a night of rain the streets are almost covered with them, and it is impossible to walk without crushing some."

The quantity of fish, especially in the Bay of Panama, early gave rise to the name of "Panama," or "place where fish abounds." The market of the capital is well stocked, particularly with rock-cod, snappers, yellow-bellies, dolphins, whiting, soles, catfish, bonitas, albicore, and young sharks. Devilfish, sharks (some measuring thirty feet), and various other kinds, infest the sea-coast. The rivers also abound in fish. The Indians, in order to procure them, form parties, and after spreading a net across a shallow part of a river, drive the fish towards it by beating the water and by loud shouts; the captives are killed by a blow, and thrown upon a raft anchored for that purpose in the middle of the stream. A more simple method is that of stupefying the fish with the juice of the *Manzanilla* (*Hippomane Mancinella*, Linn.), the bark of *Espavè* (*Anacardium Rhinocarpus*, De Cand.), or the leaves of *Barbasco* (*Ottonia glaucescens*, Miq.). A

net is stretched from bank to bank, and these substances thrown into the river. The effect is surprising: the fish instantly appear on the surface, and are driven without resistance against the net, where they are secured. The law however inflicts a penalty upon this mode of fishing, as it not only depopulates the rivers, but causes diseases among the people, who use river-water for every domestic purpose.

Shells occur in great variety and beauty, and belong chiefly to the genera *Arca*, *Avicula*, *Buccinum*, *Cancellaria*, *Cerithium*, *Chiton*, *Clavagella*, *Columbella*, *Conus*, *Corbula*, *Cypræa*, *Harpa*, *Marginella*, *Murex*, *Neæra*, *Nucula*, *Oliva*, *Ostræa*, *Patella*, *Pecten*, *Phos*, *Pinna*, *Purpura*, *Pyrula*, *Scalaria*, *Solarium*, *Terebra*, *Triton*, *Trophon*, and *Venus*. Species of *Arca*, and two kinds of oysters, are used as food; a purple dye is obtained from the *Caracolilla* (*Purpura patula*, Linn.); and pearls from the *Avicula margaritifera*, Bruguière. Pearl-oysters are common on the whole coast of the Pacific, but more abundant in the Bay of Panama. Balboa, when he discovered the South Seas (1513), was the first European who heard of their existence, having been presented with some pearls by the Cacique Tamaco; shortly after the pearl-fishery commenced, and has continued ever since. It is now carried on by free labour, a diver receiving, besides his daily food, fifteen dollars a month: he is able, if successful, to bring up each time a dozen shells, four of which he puts between the fingers of the left hand and eight on the bend of the same arm, while his right remains free for separating the shells from the rocks. The divers complain of the *aguamalas*, or sea-

nettles, species of *Medusa*, which cause a severe pain on touching the body; but they are most in fear of the sharks, which are frequently fatal to them. Scarcely a tenth part of the shells are found to contain pearls, and even among these are many grey and bad-shaped ones, of little or no value. The pearls are sold by weight, and vary in price according to shape and colour. The largest and most perfect one perhaps ever found on the coast of the Isthmus was obtained at the Paredes Islands, and is now in the possession of Mr. James Agnew, at David; it is three-quarters of an inch in diameter, and perfectly round. These shells form a lucrative article of commerce, and are much inquired after by French vessels. The mollusks themselves are strung upon cords, dried in the air, and eaten. About thirty years ago a diving bell was sent out by an English company, but it did not answer expectation: the expense at which the concern was fitted out and supported was too great, and the oysters did not lie in banks, as is generally the case, but were dispersed under rocks and on uneven ground; a peculiar ground-swell and motion under the water, together with a strong current, made it almost impossible to place the diving-bell in safety or to advantage.

Crabs, shrimps, and prawns may be obtained in any quantity required. Spiders and scorpions are frequent, the bites of the latter producing the utmost pain, great swelling of the wounded part, and, in some cases, slight fever. Garrapatas, or ticks (*Ixodes* sp.), which swarm in the woods, are a great annoyance to both men and animals: they adhere firmly to all parts of the body, and can only be removed by scraping them off with a knife

or washing the skin with spirits; the dry season is most favourable for their development; during the wet they are not so frequent, but are more than replaced by the coloraditas, very minute red insects, which exist in the grassy plains in prodigious numbers, and the pain they cause by introducing themselves into the skin is of such an irritating nature that they may justly be considered as the greatest plague of the Isthmus. The nigua, or jigger (*Pulex penetrans*, Linn.), another annoying insect, which enters the tender parts of the feet, under the nails, between the toes, etc., is met with principally on the higher mountains; its congener, the common flea (*Pulex irritans*, Linn.), and most other vermin common in cooler regions, are fortunately rare. Beetles are not numerous, but those that occur are very beautiful. The carrion-feeding beetles are scarce, while those that subsist on vegetable substances are more numerous,—probably a natural consequence of the rapid decomposition of animal matter. Some are phosphorescent. The cocullo gives so brilliant a light that one may read by it; the women collect them in the sugar-plantations for the purpose of decorating their hair in the evening, when these beetles have the appearance of diamonds. Myriads of fireflies swarm in the forests, and several species of cockroaches (*Blatta* sp. pl.), stick-insects (*Mantis* sp.), and many other *Orthoptera*, among them various kinds of crickets, have been noticed; one cricket, the *Cigarro* of the natives, attains a length of six inches, and is probably the largest of these creatures in existence. The *Gorgojo* (*Cicada* sp.) has the peculiarity of making a sound not unlike the hissing of snakes, for which strangers are apt

to mistake it. When at Coyba, one of the officers of H.M. Steamer S* * * had ventured some distance into the woods in search of game; all at once, wherever he turned, the hissing of snakes met his ear; he hurried back to the beach, and arrived quite exhausted with the exertion he had made to regain a clear place. The cause of the sounds was soon ascertained, and the bold hunter became for several days the laughing-stock of his companions. Of *Neuroptera*, dragon-flies and various kinds of ants may be enumerated. The arriero (*Atta* sp.) is about an inch long, and very destructive to plantations: it forms regular roads, occasionally from one to two miles long, and is always seen carrying portions of leaves, flowers, and other substances, mostly exceeding its own weight. A honey-bee is frequently met with, which, being stingless, may be robbed of its stores without difficulty; another species of bee produces a black wax, which is used for candles. Butterflies appear in great number in the beginning of the wet season, but, though some are of exquisite beauty and large size, the generallity are small, and do not display that brilliancy of colours to which the eye is accustomed in the Tropics. Mosquitoes and sandflies are the scourge of the sea-coast, but they are not so numerous in the interior. One of the most annoying animals is the *Gusano del monte*, or Guinea-worm (*Filaria* sp.). Entering the flesh, especially near the knee, as a very minute being, it grows in about six weeks to the length of an inch and the thickness of a good-sized quill. The place where it remains has at first the appearance of a mere pimple, but gradually becomes more inflamed, causing stiffness in the legs and extreme

pain. The worm should be cut out, or else it will attack the bone. Unluckily it is seldom discovered before it has obtained a considerable size, as the generality of people look upon the wound as a mere sore, and apply every remedy but the right one.

In a country like the Isthmus, where nature has supplied nearly every want of life, and where the consumption of a limited population is little felt, agriculture, deprived of its proper stimulus, cannot make much progress; it is therefore, in the Isthmus, in the most primitive state,—our first parents could hardly have carried it on more rudely. A spade is a curiosity, the plough has never been heard of, and the only implements used for converting forests into fields are the axe and the machete (or chopping-knife). A piece of ground intended for cultivation is selected in the forests, cleared of the trees by felling and burning them, and surrounded with a fence. In the beginning of the wet season the field is set with plants by simply making a hole with the machete, and placing the seed or root in it; the extreme heat and moisture soon call them into activity, the fertility of a virgin soil affords them ample nourishment, and without the further aid of man a rich harvest is produced. The same ground is occupied two or three years in succession; after that time the soil is so hard, and the old stumps have thriven with so much energy, that a new spot has to be chosen. In most countries this mode of cultivation would be found impossible; but in New Granada all the unoccupied land is common property, of which anybody may appropriate as much as he pleases, provided he encloses it either artificially or by taking

advantage of rivers, the sea, or mountains. As long as the land is enclosed it remains in his possession; whenever the fence is decayed the land again becomes the property of the republic. Colonial produce, such as sugar, coffee, cacao, tamarinds, etc., which require more attention than the inhabitants are wont to bestow, are merely raised for home consumption; and although the provincial government has tried to encourage this branch of industry by offering premiums for growing a certain number of plants, and the soil and climate are favourable, yet none, except a few enterprising foreigners, have taken a prominent part in the cultivation; and there is reason to believe that while the country remains thinly populated, the high price of labour, consequent on such a state of society, will be a lasting impediment to the establishment of plantations on a large scale. The cerealia grown are rice and Indian corn: the former was introduced by the Spaniards; the latter was known before the conquest to the Aborigines, who raised it extensively, and used to prepare from it their bread, and *chicha*, a kind of beer. Some successful experiments with wheat have been made on the mountains of Veraguas, which will doubtless lead to an extensive cultivation of that grain. Of dessert fruit probably no country can exhibit a greater variety. The plantain furnishes the inhabitants with the chief portion of their food. The esculent roots under cultivation are *Ñame* (*Dioscorea alata*, Linn.), *Yuca* (*Manihot utilissima*, Pohl), *Batata* or *Camote* (*Batatas edulis*, Chois.), *Otò* (*Arum esculentum*, Linn.), and *Papas* (*Solanum tuberosum*, Linn.). Except the potato, all these plants are propagated by cutting off the

top of the roots (tubers, corms, etc.). The vitality of these cuttings is very great; they may be left for weeks on the field, exposed to sun and rain, without receiving any injury. Other vegetables grown are the *Challote* (*Sechium edule*, Swartz), *Guineo* (*Musa sapientum*, Linn.), *Guandu* (*Cajanus Indicus*, Spr.), *Mani* (*Arachis hypogæa*, Linn.), *Pepino* (*Cucumis sativus*, Linn.), *Sapallo* (*Cucurbita Melopepo*, Linn.), *Lechuga* (*Lactuca sativa*, Linn.), and *Col* (*Brassica oleracea*, Linn.). The lettuce and cabbage are raised with difficulty in the lower region; but they never form heads, and are not much liked. Tomatos (*Lycopersicum esculentum*, Mill.) and different kinds of *Aji* (*Capsicum* sp. pl.) are cultivated in considerable quantities, and are used as condiments for culinary purposes.

Domestic animals were unknown before the arrival of the Spaniards; they are now widely diffused, but have degenerated, probably as much from want of proper attention as from the effect of climate. Cats and dogs are small and lean. Pigs thrive tolerably well, and are kept on account of the lard, which is as indispensable to the Panamian cook as butter to the European. The horses are small and lean: I once saw a European who, on being offered one of them, took the animal under his arm, to the great amusement of the bystanders, and lifting it up, exclaimed, "Here's a thing for a man to ride upon!" The colour of most of the horses is grey, or rather dirty white, and the price of a common one is from five to twenty dollars. Asses are seldom used, but mules are highly valued. Goats are not extensively reared; sheep are mere objects of curiosity. Oxen are so numerous, that

not uncommonly five or six thousand may be seen grazing on one plain; their price is from one to twelve dollars. On large estates from five hundred to a thousand are killed at a time; the meat is cut in strips, slightly salted, and dried in the sun, and sent, under the name of *tasajo*, to Choco, where it obtains a good price; the hides, worth from six to eight reals a-piece, are shipped to the United States, the tallow to Peru. Cheese is made in small quantities; butter is hardly known. Bullocks are seldom used as beasts of burden or draught. The cattle, allowed to roam about at liberty, have become wild, as is the case in many parts of tropical and sub-tropical America, though in southern Africa, where no more pains are taken to confine them, horses and bullocks are gentle, and keep in the vicinity of human habitations. The difference must probably be attributed to the number of carnivorous beasts with which the Cape Fauna abounds, while in the hotter portions of America, where few ferocious animals are met with, the herds may pursue their grazing unmolested, and no longer require the protection of man.

On poultry more care is bestowed. Domestic fowls have multiplied to a great extent; it is reported however that some localities are unfavourable for rearing them. Mr. Lloyd asserts that at Portobelo fowls introduced from Cartagena or Panama cease to lay eggs, and that their flesh becomes tough and unpalatable.

CHAPTER XVIII.

Topographical Description—Territory of Bocas del Toro—Province of Veraguas—Province of Panama—Territory of Darien.

THE Isthmus of Panama, formerly belonging to the Crown of Spain, was in the year 1821 incorporated with Colombia, and in 1831, after the division of that state, it became, and still remains, a part of the Republic of New Granada. Politically it is divided into two provinces, Panama and Veraguas,—and two territories, Darien and Bocas del Toro. At the head of the two former is a governor, at that of the latter a prefect. The provinces are subdivided into cantons, these again into parishes. Ecclesiastically the Isthmus is considered as a bishopric, the head of which resides at Panama; and judicially as one of the seven *distrîctos judiciales* of which the Republic of New Granada is composed. The chief tribunal of justice is in the city of Panama, under the auspices of two "majistrados;" there are besides in every canton one or two judges. In the territories the prefects are charged with the administration of justice.

The Isthmus has one hundred and fourteen electors, who have a voice in the election of the President, the Vice-President, and the higher officers; they also appoint Senators and representatives to Congress, and name their own provincial officers.

The territory of Bocas del Toro extends over the north-west corner of the Isthmus and the islands situated in the lagoon of Chiriqui, and contains about 721 square miles. It is bounded on the north by the Atlantic Ocean, on the west by the Republic of Costa Rica, and on the south and east by the province of Veraguas. Originally its limits were more extended: a law of the 20th of November, 1803, given by the King of Spain, placed the whole coast, as far as Cape Gracias a Dios, under the jurisdiction of the Viceroyalty of New Granada. As such boundaries were generally acknowledged when the Spanish Americans obtained their independence, the Government at Bogotà now claims the whole shore, and has, at least nominally, incorporated it with this territory. Bocas del Toro constituted a part of Veraguas until 1843, when it was formed into a separate territory, and, in order to induce people to settle, all who lived within its limits were, till the 31st of August, 1850, exempted from taxation, and Bocas del Toro, up to the same date, declared a free port. Having a rather unhealthy climate, it is but thinly peopled; indeed, the whole Christianized population amounted in 1843 to no more than 595. It is governed by a prefect, who receives an annual salary of fifteen hundred dollars. The territory will probably soon be in a more flourishing condition. The old road connecting the town of David with the port of Bocas del

Toro being so bad that only pedestrians can traverse it, a new one is about to be commenced by the Chiriqui road company, upon which the commerce of Western Veraguas, and, what is of greater importance, a communication between the Atlantic and Pacific, will be conducted.

Next to Bocas del Toro lies Veraguas, having the Atlantic on the north, the territory of Bocas del Toro on the north-west, the Republic of Costa Rica on the west, the Pacific Ocean on the south, and the province of Panama on the east. Respecting the derivation of the name Veraguas various opinions prevail. Some contend that it is composed of the words *ver*, to see, and *agua*, water, because between the town of David and the port of Bocas del Toro there is said to be a mountain from the top of which both oceans are visible. Others declare it to be a corruption of *virde* and *agua*, the waters of the river Veragua, they say, being at times of a greenish hue; this having been observed by the discoverers, it was termed Virde-aguas, which name was afterwards changed into Veraguas, and extended over the whole district. A third party derives it from "*ver agua*," because when Columbus discovered the northern coast he encountered much rain ("he saw water"), and from the constant dampness of the weather the clothes of the voyagers became "*averaguado*" (mouldy): the verb *averaguar* being a provincialism used only in the Isthmus, this argument, it must be confessed, looks plausible, but, like the others, it is not in accordance with history. We find Ferdinand Columbus mentioning the name Veraguas long before his father had touched at

that province. The name was very well known to the people of Carette who accompanied Columbus as pilots, and the word Veraguas is therefore of Indian, not of Spanish, origin.

Veraguas covers a surface of about 7416 square miles, and contains a population of 45,376 souls: it is divided into two cantons, Santiago and Alanje, the former being situated in the eastern, the latter in the western part of the province. Alanje, or Chiriqui, numbers 15,111 inhabitants, and comprises the parishes of David, Alanje, Boqueron, Bugaba, Dolega, Gualaca, Remedios, San Felix, San Lorenzo, and San Pablo. The town of David is the principal place, or *cabecera*, of the canton. This dignity however was conferred upon it only a few years ago; it was enjoyed formerly by Santiago de Alanje—or, as it is also called, Riochico—situated a few miles southward. David lies in lat. 8° 23′ north, long. 82° 27′ west, on the left bank of the river of the same name, in a beautiful plain, and is surrounded by the villages of Gualaca, Dolega, Boqueron, and Bugaba, and by mountains of considerable elevation. On the south-west rises the volcano of Chiriqui, a peak 7000 feet high; on the north the Galera de Chorcha, a flat table-mountain, which, as the first part of its name indicates, has some resemblance to a gallery, or corridor; from the top a waterfall descends over huge blocks of granite several hundred feet in depth. During the wet season, when great quantities of water are discharged, it is very conspicuous, resembling from a distance a stream of silver, and serving navigators as a landmark in making Boca Chica, the seaport of David.

David has about six hundred houses, built of wood and clay, and generally one story high, and, being all white-washed, they form several neat-looking streets. There is only one church, which stands in the centre of the public square, where also the government offices are situated. The town contained in 1843, according to official statements, 4321 inhabitants; their number is however yearly augmented by immigration. Several French, Italians, and North Americans have settled there, and it is principally owing to their exertions that David has risen within the last fifteen years from a paltry hamlet to a prosperous town. Though the Davidenians are mostly of a mixed race, the number of whites is considerable; their employment consists in breeding cattle, agriculture, and commerce. The exports of the place are rice, coffee, sarsaparilla, pearls, hides, turtle-shells, dried meat, and some gold-dust. Several other natural productions might be advantageously shipped. The Corpachi (*Croton*), the bark of which is highly valuable, grows plentifully in the forests; the Quira (*Platymiscium polystachyum*, Benth.) is found in abundance in the neighbourhood, and the Saumerio (*Styrax*), producing an odoriferous balsam, is seen in extensive groves in the adjacent mountains. At present all the produce has to be carried to Panama, but when the road to Bocas del Toro is completed, and a direct communication with Europe and North America has been established, many productions which at present are not worth sending will be exported with advantage. The climate of David, if compared with that of other parts of the Isthmus, is particularly healthy. Longevity is common; few of the

cutaneous eruptions so frequent in other districts are experienced; the common fever of the country being the predominant disease, and even this malady is only frequent during the change of season. The climate is annually improving: if we may believe the tradition of the country, the rainy season a hundred years ago was most violent, making it necessary to navigate from house to house in canoes.

Among the largest villages of the Canton are San Lorenzo and Pueblo Nuevo de los Remedios. The name Remedios for the latter place is now becoming the general one, as there exists another Pueblo Nuevo on the Playa of Chiru, in the Bay of Panama, which, by way of distinction, is termed Pueblo Nuevo de San Carlos. Remedios is situated on the high road which connects David with Santiago de Veraguas, in a plain, at equal distances from the villages of Tolè and San Lorenzo. It consists of four hundred buildings, most of which are slightly constructed of the bark and leaves of palms; only an inconsiderable number are built more substantially, and furnished with tile roofs and walls made of adobes. Remedios, being the head of the parish, has a church of considerable size, though smaller and inferior to the old building, of which the ruins are still visible. The number of its inhabitants was, in 1843, according to the census then taken, 1235; they are a mixture of the three races usually found in the hotter parts of Spanish America, the Caucasian, the African, and the American, mestizoes and mulattoes being the predominant. Remedios was formerly a place of much more importance, but, as in all places where a mixed population

prevails, rather a decrease than an increase followed when immigration ceased. The exact time of its foundation is unknown; during the latter part of the seventeenth century it was in prosperous circumstances, so much so, that the Buccaneers, on the 23rd of May, 1680, thought it worth while to assault it. The inhabitants however made a gallant resistance on the river-side; the commander-in-chief of the pirates, Captain Sawkins, was slain, and Sharp, the second in command, disheartened by his losses, retreated. In another attempt, on the 31st of June, 1685, the rovers were more successful: the village was taken, and shared the same fate as all the places which fell into the hands of that terrible association.

The canton of Santiago, the eastern portion of Veraguas, contains 30,265 inhabitants, and consists of thirteen parishes. Santiago de Veraguas, the capital of the province, is situated in the canton of Santiago, in a plain on the southern side of the Cordillera, eight miles northward of the Port of Montijo, about thirteen miles south-east of the village of Mesa, and forty west of the town of Natà. The exact period of its foundation is doubtful, as most of the old chroniclers confound it with Natà: it is highly probable that, like most of the adjacent places, it was built shortly after the conquest. The houses, nine hundred in number, are chiefly composed of wood, and, with a single exception, are one story high. Except two churches and an hospital, there are no public buildings of any importance. The principal streets run from north to south; a great part of their pavement is of petrified wood—the *chumicos petrificados*

of the natives. Santiago, as the capital, is the residence of the governor and the chief judge of the province; the former, elected every four years, receives annually eighteen hundred dollars. The number of inhabitants is about five thousand, a great part of whom are whites. Their principal occupation is breeding cattle, manufacturing hammocks, and plaiting the so-called Panama hats. Many of the wealthier people are engaged in mining speculations. There is some nice scenery in the vicinity of the town. In the wet season the river Chorro forms a waterfall, which is overhung by graceful trees and surrounded by bold rocks, and produces a picturesque effect. In the bed of the river there are extensive layers of fossil sea-shells.

The principal villages of the canton are Calobre, Cañajas, Mesa, Mineral, Montijo, Palmas, Rio Jesus, Sonà, and Tolè. Palmas was founded in 1774 by monks, Rio Jesus in 1755. In the neighbourhood of the latter are the celebrated paradise-trees which I have described in Hooker's 'Journal of Botany.' Mineral, about twenty-two leagues from Santiago, was formerly of importance on account of its gold-mines, but has now sunk into insignificance. Calobre is famous for its hot springs. The town of Santafé, described by Herrera, was destroyed in 1805 by the Indians, and several of the other places mentioned by the same historian have disappeared without leaving a trace behind. Near Mesa—or "Mesita de Oro" as the village was called during the last century, on account of its prosperity—are the remains of a beautiful basaltic column. This column stood formerly on an eminence which overlooks

the adjacent country, but about seventy years ago it was thrown down by an earthquake, and broken into several pieces; it is sixteen feet in diameter, and its height when entire must have been about a hundred and fifty feet. The natives call it Barca de Piedra,—though it has not the slightest resemblance with a ship,—and believe it to have been built by the Indians in order to serve them as a watch-tower—a belief to which its peculiar formation and former position may have given rise*.

The province of Panama, the most important and populous district of the Isthmus, is situated to the east of Veraguas. The northern boundary is the Caribbean Sea, its western the province of Veraguas, and its southern the Pacific Ocean and the territory of Darien. It extends over a surface of about 9139 square miles, has a population of 10,494 inhabitants, and is composed of the cantons of Los Santos, Parita, Natà, Chorera, Portobelo, and Panama. The name "Panama" is of Indian derivation, and was at first applied to a small fishing village situated where at present the ruins of Panama Viejo are, was afterwards given to the town, and at last extended over the whole country.

The cantons of Los Santos and Parita occupy the little peninsula, of which Punta Mariato and Punta Mala form the southernmost points. Los Santos, having for its *cabecera* the village of the same name, is composed of the

* It is not improbable that the column was originally termed "Balco de Piedra," and that the name was afterwards corrupted into Barca. The letters *l* and *r* are constantly confounded by the Isthmians.

parishes of Pedasi, Pocri, Tablas, and Los Santos, containing a population of 14,539. Parita is formed by the parishes of Macaracas, Minas, Ocú, Pesé, and Parita, and has 15,119 inhabitants; the *cabecera* is Pàrita. The people of both these cantons are considered the most industrious of the country.

The canton of Natà is that part of the province which touches Eastern Veraguas. It contains 19,610 inhabitants, and comprises the parishes of Anton, Olà, Penenome, Santamaria, and Natà. The town of Natà, the principal place in the district, is interesting from being the oldest town of the American continent built by Europeans, having been founded as early as 1517 by the Licentiate Gaspar de Espinosa and several other gentlemen. Notwithstanding its age, it is but a small town. It is situated in a plain between the Rio Grande and Rio Chico de Natà, and has about eight hundred houses, two churches, irregular unpaved streets, and contains five thousand inhabitants. At the time of its foundation the surrounding district was occupied by a tribe of Indians, at the head of whom stood a chief called Natà. From this circumstance, and from its being founded by a party of gentlemen, the settlement received the name of Natà de los Cavalleros—an appellation it still retains. The principal villages of this canton are Santamaria and Anton. At the latter cocoanut palms are so numerous as from a distance to resemble a forest.

The canton of Chorera borders that of Natà, and contains 7559 inhabitants; the parishes belonging to it are Araijan, Capira, Chame, Chorera, and San Carlos.

Chorera is the chief village of the canton, and numbers 2500 inhabitants. Having the advantage of a fine river for bathing, and a cool and salubrious climate during the summer, the place is much frequented by families from Panama, who repair thither for the restoration of their health, and rural enjoyment. During the wet season Chorera is very dirty, the mud and water in the streets being ankle-deep. Capira is a village of some extent, and produces coffee of superior quality. San Carlos, or Pueblo Nuevo de San Carlos, is a pleasing little village, situated on the Playa of Chirù. Chame is but a short distance from San Carlos, and has 1300 inhabitants; the name Chame was that of a chief who made some resistance at the time of the conquest. Arraijan is a small village, situated at about equal distances from Cruses and Chorera.

The canton of Portobelo, the north-west corner of the province of Panama, comprises the four parishes of Chagres, Minas, Palenque, and Portobelo. The town of Portobelo, the *cabecera* of the district, is situated in lat. 9° 34′ 29″ north, long. 79° 43′ 40″ west, close to the sea, at the foot of a high mountain which surrounds the whole port; it consists of a long street, circling round the bay, a few short ones branching off, and two squares, one in front of the treasury, the other before the church; the principal public buildings are the fortifications, the hospital, the treasury, and the church: but these, as well as the private houses, are in a very dilapidated state. Portobelo numbers about 1300 inhabitants, chiefly negroes and mulattoes; it has an excellent harbour, but, with this exception, there is nothing to recommend

it. The climate is the most unhealthy in the whole country, and has proved fatal to many Europeans; there is seldom a fine day,—the place is almost always enveloped in vapour, arising from the rank vegetation of the neighbourhood, or deluged with rain; the heat is so excessive, and the climate so noxious, that few white men have been able to live there for any time, and even some species of animals quickly degenerate. Formerly a paved causeway existed between Panama and Portobelo, but this is at present in a very bad condition; it has been broken up by the violent rains, and, being for the most part overgrown by bushes and high trees, it is with difficulty traversed on foot.

The harbour of Portobelo was discovered in the year 1501 by Columbus, but the town was not commenced until the reign of Philip II. Soon after its foundation it became of importance by being made the port through which all trade between Spain and Western America was carried on, and by the great annual fair held there. On account of these advantages Portobelo was looked upon with envy by other nations, and suffered frequent attacks; the first time by Francis Drake, in 1595, during the war between Philip II. of Spain and Elizabeth of England. It was sacked twice by the Buccaneers, in 1624 and 1673; and again, when in the reign of George II. war broke out between Great Britain and Spain, Portobelo was taken and nearly reduced to ashes by Admiral Vernon, on the 22nd of November, 1739. Nine years later, the Spanish galleon and the great fair were abolished, when Portobelo, which had always been dreaded on account of its climate, was almost deserted:

it fell never to rise again, for after the war of independence the traffic was conducted by way of Chagres, which, though not a regular harbour, has several advantages over Portobelo.

The town of Chagres is, like Portobelo, one of the most miserable and unhealthy in the country; it lies at the mouth of the river of the same name, in lat. 9° 18′ 6″ north, long. 79° 59′ 2″ west, and is guarded by the castle of San Lorenzo, a dark-looking fortification. This castle is situated on a high rock at the entrance of the river, and was destroyed in 1671 by command of Henry Morgan, but a few years after was rebuilt by the Spaniards. Chagres contains about one thousand inhabitants, nearly all of whom are negroes or people of a mixed origin. From the number of steam and sailing vessels repairing thither, Chagres, during the last few years, has become important, but there is little hope of its becoming a large town, even if the present mode of communication between the Atlantic and Pacific should be continued. The climate commits fearful ravages among new arrivals, especially the whites. The rainy season is prolonged to nine and even to ten months, and this alone will be a barrier against a permanent settlement of the Caucasian race. The houses of Chagres are slightly built,—mostly of the bark and leaves of palms.

The canton of Panama adjoins that of Portobelo and Chorera, and contains a population of 10,494 souls; it is divided into nine parishes, San Felipe, Santa Ana, Cruses, Chepo, Chiman, Gorgona, Pacora, San Juan, and Taboga. The city of Panama, the capital of the province, and also the *cabecera* of the canton, was built in 1673,

two years after the destruction of the old town. Soon rising into importance through its favourable situation, it continued prosperous till the time of the abolition of the Galleon and Portobelo fair, when it became impoverished almost as suddenly as it had acquired its wealth: all the richer merchants left, most of the buildings fell into ruin, cattle grazed in the streets, the tops and walls of houses were overgrown with bushes and creepers, and several disastrous fires added to the mournful aspect of the city. The first of the conflagrations took place in 1737, the second in 1756, the third in 1781, and the fourth in 1821; the three latter were caused by accident, the first by incendiaries, natives of Guatemala. It is more than doubtful, if the Isthmus had remained under the despotic sway of Spain, whether the city of Panama would ever have risen again after its fall in the eighteenth century. The war of independence, and the great changes produced by it throughout Spanish America, were the causes of its revival: trade was opened, foreigners settled, representatives of different nations were appointed to reside at Panama, education began to spread, and thus the town gradually recovered. Nothing however has raised it more than the establishment of lines of steamers in the Pacific and Atlantic Oceans. Since the first appearance of these vessels, and the subsequent discovery of gold in California, the city has so much improved, and such great alterations have taken place, that one would hardly fancy it the same,—and the Isthmus, which was formerly merely a road subservient to the selfish policy of Spain, became from that period the highway of nations.

The city of Panama lies in lat. 8° 56′ 56″ north, long. 79° 31′ 12″ west, at the foot of the Cerro de Ancon, on a little peninsula connected towards the west with the mainland. It is divided into two parishes: that within the walls, the city, is called San Felipe; that without, the suburb, Santa Ana. Panama differs considerably from the other towns of Spanish America: its high buildings, tiled roofs, numerous churches, and massive walls, give it an air reminding one, at first sight, of a European town; on a closer inspection however the peculiarity of the old Spanish style becomes evident. San Felipe, the best and most regularly built part, is surrounded by walls and watch-towers, which are at present rather dilapidated; the fortifications are irregular and not strong, though the walls are high, the bastions having been constructed at various times, as the menaces of pirates and other enemies have suggested: the most modern seem to be those on the eastern and southern sides, erected in 1778. The city has four gates, two opening towards the sea, two towards the land; the traveller coming from Chagres enters by the western one, which was formerly strongly defended, and connected with the mainland by means of a draw-bridge. The principal streets run from west to east, and are crossed by others extending from north to south, from sea to sea, preserving a current of air, which greatly adds to the salubrity of the place. The streets are paved and regular, but rather narrow, seldom exceeding more than fifty feet in breadth; the pavements for foot-passengers are covered by the balconies of the houses, and a person may walk almost all over the town during a shower of rain without getting wet. There are

four public squares, three in San Felipe, and one in Santa Ana; the principal is the Plaza del Catedral, situated nearly in the centre of the city; its western side is formed by the cathedral and the Jesuits' College, its southern by the Town-hall, its northern by the "*Colegio*," and its eastern by private buildings.

Among the public buildings deserving of notice are the governor's house, the post-office, town-hall, custom-house, college, barracks, hospitals, cathedral, and convents. The buildings devoted—or rather formerly devoted—to religious purposes cover one-half of the superficial area of the city, a strong proof of the former wealth and influence of the place. The cathedral is a fine edifice, occupying nearly the whole western side of the Plaza del Catedral; it is built in the old Spanish style, and has on its eastern facing two spires, and several statues, representing the Virgin Mary and the Apostles. It is rich in church ornaments; the decorations are tasteless, and the paintings, excepting the portraits of the Panamian bishops, which possess some historical interest, without any value. There are seven convents, six of which have partly fallen into decay; only one, Concepcion, situated in the east end of the town, between San Francisco and San Domingo, is occupied, but in 1848 it contained only four nuns, who were all very old, and as no young ones are received the establishment will soon be discontinued. San Francisco, the most extensive of the convents, was inhabited as lately as 1821 by friars, who converted many of the Indians of Veraguas to Christianity; at present it is used as store-rooms and stables, and nothing of it is in good

repair save the church. The convent of San Domingo is still more dilapidated, having only a small side-chapel preserved, in which two black women read evening prayers. In its old church, which is quite overgrown with creepers, is a remarkably straight arch, made of bricks, and extending from one side to the other. The old Jesuits' College is the finest ruin in the town; it was commenced in 1739, but was not completed in 1773, when the Society of Jesus was expelled from Spanish America, and it has never been finished; it is two stories high. The church attached to it is now used for public amusements, theatrical exhibitions, rope-dancers. The other monasteries, Merced, San Augustin, and San Juan de Dios, are also, with the exception of their churches, in ruins. The suburb has one church and a small chapel. There are two government hospitals: that destined for males is in the convent of San Juan de Dios, that intended for females is called San Tomas, and is situated in the suburb. During the last few years some American physicians have also established houses for the reception of the sick.

Most of the private buildings of San Felipe are constructed of stone, those of Santa Ana of wood. They are two stories high, surrounded by balconies, and have tiled roofs, the violence of the rains not permitting the use of flat ones. All have large doorways, sufficiently spacious to admit a person on horseback. The halls are small. Near the staircase is a door leading into the courtyard, and to the stables, the bath-room, and the well. In most houses the lower story is let to shop-keepers, spirit-sellers, and tradespeople; the first floor is inhabited by the servants,

and the upper, the most salubrious, by the landlord and his family. All the apartments are large and airy, and the drawing-rooms are generally thirty feet long, twenty-four feet wide, and twenty high. The floor is either of wood, brick, sand-stone, or marble. Every room has one or more folding-doors, opening towards the balcony, the wings having a shutter supplying the place of windows. Sometimes a pane of glass is inserted, but regular windows do not exist, and will probably never be introduced; they prevent a free current of air—an indispensable condition in so hot a climate. Besides the doors there are, higher up, smaller apertures, mostly in the shape of stars, by means of which a further reduction of the temperature is produced. The walls are from two feet to two feet six inches thick; they are decorated with pictures, crosses, figures of saints, etc., and are generally whitewashed, which, though depriving them of that aspect of comfort by which our papered rooms are distinguished, makes them look cool and prevents them from harbouring centipedes, scorpions, and other noxious animals. The balconies are from four to five feet wide, protected from sun and rain by the projecting roof, surrounded by wooden railings, and abundantly provided with flower-pots, containing roses, balsams, and carnations. In a shady corner stands the filtering-stone and several earthenware jars containing water, about which there is a degree of cleanliness not observed in any other part of the house. The furniture, which is very simple, is mostly imported either from Europe, North America, or China. In all the rooms are hammocks, in which the Panamians and the inhabitants of the Isthmus in general

may be seen swinging themselves for hours in succession.

Panama, especially the suburb of Santa Ana, is daily increasing in extent. The number of inhabitants is also augmenting: in 1843 the place counted no more than 4897, only one-tenth of which were white, the rest Indians, negroes, or people of mixed origin; at that time there were but fifteen foreigners. The population now amounts to upwards of 10,000. Their principal occupation is commerce, the transportation of goods across the country, and supplying the wants of passengers.

About a mile west of Panama is the Cerro de Ancon, which, according to Sir Edward Belcher, is 500 feet high. From the summit there is a fine panoramic view, including the city, the islands of the bay, the neighbouring plantations, the mountains towards Veraguas, the elevated chain between Portobelo and Panama, the Rio Grande, and the low lands towards Panama Viejo, the Chepo, and Pacora. At the foot of this hill are the Catholic and Protestant burial-grounds. At the latter only three persons had been interred in 1848; how many more have since been added! The Catholic burial-place is of an oblong shape, and has a high arched gateway, of modern construction and extremely tasteless; the Panamians expended on it a considerable sum, and think it a very elegant piece of architecture. Around the wall are sepulchres, in which the bodies of the wealthier are placed two years previously to being admitted into the churches of the town. Hardly any save the bodies of the rich are enclosed in coffins; most of the poorer inhabitants are merely wrapped in winding-sheets.

The ruins of Panama Viejo (Old Panama) lie about four miles to the eastward, and are at present quite deserted. The principal remains are those of a cathedral, a church, a bridge, and several watch-towers. The vicinity of Panama is very beautiful, especially at the place called Losaria, where many of the wealthier people have country residences.

The principal villages belonging to the canton of Panama are San Juan, Chepo, Gorgona, Cruces, and Taboga. The latter is situated on the island of the same name; Chepo on the river Bayano; while San Juan, Gorgona, and Cruces are built on the left bank of the Chagres. Gorgona is of very recent date; Cruces however was known in the time of Herrera, who calls it a "*venta.*" In 1671 the Buccaneers found it a considerable village; since that period it has suffered several times from inundations and conflagrations; in 1828 nearly the whole village was destroyed by fire. Had it not a rival in Gorgona it would soon become a town. The two villages have each a church and several inns. The inhabitants are nearly all either owners of canoes and beasts of burden, or store-keepers, who take charge of goods, or *bogar*, persons working the canoes.

The territory of Darien is the fourth great political division of the Isthmus. It is bounded on the north by the Atlantic, on the south by the river San Juan, on the west by the Pacific and the province of Panama, and on the east by the Atrato. Including the Pearl Islands, which belong to its jurisdiction, Darien covers a superficial area of about 16,941 square miles. It contains the parishes of Chapigana, Islas del Istmo, Molineca, Pi-

nogana, Santamaria, Tucuti, and Yabisa. Yabisa, the *cabecera* of the district, contains 332 inhabitants, and is the residence of the Prefect, who receives an annual salary of a thousand dollars. Darien is principally inhabited by savage Indians, the number of whom is doubtful. Civilization is chiefly confined to the neighbourhood of the Gulf of San Miguel, where Yabisa and the other villages are situated. The number of the entire population now professing the Christian faith amounts to 3148, 1941 of whom belong to the Pearl Islands. Although it was in Darien that the first European settlements were made, yet our knowledge respecting this district is very limited. Since the time of Paterson no scientific man, except Dr. Cullen, has crossed the country, and our knowledge of it is chiefly derived from the writings of Wafer, Dampier, and Ringrove.

CHAPTER XIX.

Inhabitants of the Isthmus—Their Number—Whites—Negroes—Half-castes—Their Customs and Manners.

THE population of the Isthmus, like that of the greater part of Spanish America, is composed of three races, the Caucasian, the African, and the American, and the numerous shades and varieties produced by their intermixture. So long as the country remained a colony of Spain, colour was of importance on account of the privileges or disadvantages connected with it; the distinction of castes formed a part of the Spanish policy. Since however these distinctions have been abolished, any man, whether he be black, brown, or white, may hold the highest office of the state. In accordance with these principles no particular mention is made in the census respecting the coloured inhabitants, and it is therefore impossible to speak with any degree of certainty of their number, but, judging from appearance, they would seem to constitute about two-thirds of the population.

The exact number of inhabitants is also a matter of doubt. In almost every part of the country there are

tribes of savage Indians, whose number does not appear in official documents; they must amount to at least 10,000. Assuming this estimate to be correct, the population of the Isthmus would be 129,697. The increase of the population from 1822 to 1843 has been 18,147, or about 8 per cent. in ten years, as the following table will show.

Census taken in the Years 1822 *and* 1843.

PROVINCE OF PANAMA.

	1822.	1843.
Canton of Panama.		
Panama (San Felipe and Santa Ana)	10,730	4,897
Cruces	1,200	1,091
Chepo	1,933	1,818
Chiman	238	276
Gorgona	549	617
Pacora	657	659
San Juan	174	165
Taboga	543	971
Canton of Chorera.		
Chorera (*cabecera*)	4,000	2,937
Araijan	834	851
Capira	1,000	1,461
Chame	1,000	1,329
San Carlos	577	981
Canton of Los Santos.		
Los Santos (*cabecera*)	4,318	6,051
Pedasi	1,544	701
Pocri	1,939	2,299
Tablas	3,577	5,488
Canton of Natà.		
Natà (*cabecera*)	4,262	5,504
Anton	1,281	1,749
Ola	360	564
Penenomé	8,643	8,598
Santamaria	2,562	3,195
Canton of Parita.		
Parita (*cabecera*)	2,170	3,258
Macaracas	2,338	3,806
Minas	1,141	1,886
Ocú	1,179	2,027
Pesé	3,142	4,142
Canton of Portobelo.		
Portobelo (*cabecera*)	1,257	1,340
Chagres	856	1,340
Minas	No returns	114
Palenque	312	463

PROVINCE OF VERAGUAS.

Canton of Santiago.

	1822.	1843.
Santiago (capital)	4,568	5,974
Atalaya	785	1,084
Calobre	1,463	1,923
Cañazas	3,542	3,924
Mesa	4,451	3,534
Mineral	No returns	301
Montijo	1,182	2,281
Palmas ...	545	2,345
Posinga	509	363
Rio Jesus ..	1,276	1,183
San Franzisco	4,387	5,358
Soná	1,184	1,343
Tole	409	652

Canton of Alanje.

	1822.	1843.
David (*cabecera*).	2,385	4,321
Alanje.....	2,611	2,998
Boqueron ..	334	629
Bugaba	242	361
Dolega	739	1,583
Gualaca	842	1,019
Remedios ..	1,800	1,235
San Felix ..	324	451
San Lorenzo	2,477	1,781
San Pablo ..	312	733

TERRITORY OF DARIEN.

	1822.	1843.
Yabisa (*cabecera*)	341	332
Chapigana ..	262	296
Islas del Istmo	700	1,941
Molineca ..	35	78
Pinogana....	176	142
Santamaria ..	245	204
Tucuti.....	113	155

TERRITORY OF BOCAS DEL TORO.

	1822.	1843.
Bocas del Toro	No returns	595

TOTALS.

	1822.	1843.
Province of Panama	64,316	70,5786
Province of Veraguas	35,367	45,376
Territory of Darien.....	1,872	3,148
Territory of Bocas del Toro ..		595
Supposed number of Indians ..	10,000	10,000
Grand Total	111,550	129,697

With the exception of some of the more recent settlers, the white Isthmians are of Spanish descent. The men are rather tall, slightly but well built, and have black hair; their complexion is pale, without the least tinge of colour, and their countenance is enlivened by dark and flashing eyes. The women are small, and have delicate feet and hands, generally fine faces, but bad figures; not using stays, and always having their dress untied, they have no waist, and look very ungraceful in public. The men are very fond of dress, and exhibit much more taste in their attire than the women; even those who cannot afford to spend much money, will rather undergo privations than be deprived of the pleasure of appearing as dandies. They are generally seen in straw-hats, and what we call summer dresses, adhering as closely to Parisian fashions as the nature of the climate permits. The women also imitate the European style. They are never seen without a shawl of blue cotton or silk around their shoulders, but wear neither caps nor bonnets when in the streets. Stockings are not in general use, being only worn on particular occasions. At balls and on gala-days they display a profusion of pearls, gold chains, and other ornaments: there are several ladies whose pearls alone amount to a small fortune.

The worst features in the character of the Isthmians are want of moral principle and steadiness of purpose. For the first their religion may account, for the second the enervating climate. They are indolent, licentious, fond of gambling, and, although not destitute of talent, without much application. The country has not produced a single individual who has raised himself above

mediocrity. With these bad qualities they possess also some good ones. They are hospitable, obliging towards strangers, and generous towards the poor and infirm: almost every family of consequence has several pensioners, who come regularly every Saturday to receive alms; but it must be admitted that in many instances rather too much display is made of this liberality. With the exception of those who have been brought up in Europe or in North America, their education is defective; they derive therefore no pleasure from rational conversation, reading, or any other intellectual occupation. The women especially are ill-informed, and are highly delighted if any one talks to them in high-sounding phrases, however empty they may be. This however is the fault of the Isthmians in general, and is probably the reason why they show a greater liking for the French than for other foreigners. Yet sensible men are fully aware, that to the English and North American, and not to the Gallic race, they are indebted for their present prosperity. All the French ever did for the Isthmus consists in having talked and written about assisting in carrying out various improvements; here however their friendship stopped. But when the Anglo-Saxon appeared, the country began to revive and prosper. With all these defects however the Isthmians stand far above the Spanish Americans. Frequent intercourse with foreigners has greatly diminished their bigotry, and rendered them more liberal than their neighbours, a tendency which will soon emancipate them from those prejudices which Spanish priesteraft and tyranny have bequeathed to them.

The negroes are treacherous, thievish, and extremely indolent. Those who are free, work perhaps one or two days and then cease, until necessity compels them to resume their occupation. "Only fools and horses work" is one of their favourite sayings, and is the principle on which they act: for this reason they will always fill subordinate situations, although the law places them on a level with the rest of their countrymen. They are very noisy, and their continual spitting, screaming, and loud laughing make them disagreeable companions. Slavery exists to a limited extent. Slaves, it must be remembered, were private property, and the Republican Government, although prohibiting their importation, could not at once emancipate them without disregarding individual interests. But as the immorality of the system called for reform, a course was adopted which seems to have satisfied all parties. Every slave was allowed to purchase his own freedom, and all children born of slaves after the 21st of June, 1821, were declared free. The proprietors have to clothe, feed, and educate them, and the children in return have to work till their eighteenth year for their mothers' masters. This law will speedily effect the emancipation of the slave population, without injury to private interests, or suddenly throwing a number of labourers out of employment. Although the slave-trade is prohibited, yet a few years ago a number of negroes were sent from Panama to Peru, where they were smuggled on shore, the law of that country not permitting them to be landed openly. It must however be added, for the honour of the Isthmians, that they had no part in the proceeding, the culprit being a Frenchman.

The British consul protested against the act, as equally opposed to the constitution of New Granada and to her treaty with England; unfortunately the mischief was done before any more effectual measures could be adopted.

The character of the half-castes is, if possible, worse than that of the negroes. These people have all the vices and none of the virtues of their parents. They are weak in body, and are more liable to disease than either the whites or other races. It seems that as long as pure blood is added the half-castes prosper; when they intermarry only with their own colour they have many children, but these do not live to grow up, while in families of unmixed blood the offspring are fewer, but of longer lives. As the physical circumstances under which both are placed are the same, there must really be a specific distinction between the races, and their intermixture be considered as an infringement of the law of nature. The negroes and half-castes, who, with a few exceptions, are the poorest of the inhabitants, dress very simply. The men, if they follow a trade or profession, wear white trowsers and jackets; the slaves, carriers, and labourers, a straw-hat, a shirt, and a pair of short breeches, reaching a little below the knee. The women are seen in loose gowns, which hang negligently around their shoulders, and frequently slip down. They have gold chains round their necks, to which *escuditas* or other gold coins are fastened, a custom which, however ostentatious it may appear, is not without its good effect: if the money were kept in a box it would be spent, but having it about their persons, vanity makes them preserve it, and in case of distress they have always something to resort to. The

coloured children wear a straw-hat and a shirt, very often only the former, especially in the country districts.

The upper classes are sober and regular in their habits. They rise and go to bed early, take breakfast about ten o'clock, a siesta in the middle of the day, then a bath, and about three or four o'clock dinner; after which the men ride on horseback, and the women sit on the balconies or in the verandas, conversing. Their meals are varied and substantial; even the poorer people always have rice, vegetables, and meat, and if they are told that in Europe there are many who cannot purchase meat for days or even weeks, they hardly credit it: never having known any real poverty, they are unable to form an idea of it; and having heard so much of the splendour and riches of the Old World, they entertain just as extravagant notions respecting that country as many Europeans in regard to America. The common bread of the Isthmus consists of *tortillas de maiz*, or cakes made of Indian corn, which differ from those of Mexico and Central America by being about a foot across and an inch thick, or of a cylindrical shape, and rolled in palm-leaves. Bread made of wheat is only to be procured in towns and large villages. The meat most in use is pork and beef; the latter, when cut into thin, long slices, slightly salted, and dried in the air, is called "*tasajo*," and is in some parts sold by the yard. The whites are temperate in drinking, and carefully avoid strong coffee, tea, beer, or spirits. Intoxication is of rare occurrence among them, but more frequent among the negroes and zamboes. The beverages most in demand are those made in the country, viz. *aguardiente* (brandy),

extracted from the sugar-cane, *chicha*, a beer made from Indian corn or the pine-apple, and palm wine. The latter is obtained by felling the tree, and making, under the crown, where the leaves take their rise, a square hole; the sap, in ascending, is thus stopped, and the hole filled with a delicious fluid, which resembles champagne, and is drunk without further preparation. Except by the white ladies, especially the young ones, smoking is generally practised, although it is a rather expensive habit, the sale of tobacco being a government monopoly. The negroes often put the burning end of the cigar in their mouths, and are so skilful in holding it, that they are able to carry on long conversations without ever burning their tongues or taking the cigar out of their mouths. The children commence smoking at four or five years of age; and, strange to relate, even babies, when they scream, are quieted by putting a cigar in their mouths. Their fond mothers imagine that nothing is more calculated to pacify their darlings than giving them a thing which they themselves consider the height of luxury. The mode of swimming pursued generally by the Isthmians is the same as that practised by several tribes of North American Indians—it is that of turning from side to side, and throwing out the arms alternately: this manner is said to save the strain upon the breast and spine.

Notwithstanding the prevailing absence of honourable principles, comparatively few crimes are committed. A superficial observer might take this fact as a proof of the high moral standard of the population, but it is far from being so: few men will commit outrages in cold blood;

the generality are either influenced by passion, or fancy themselves driven to it by necessity, and, as the Isthmians are neither passionate nor deprived of the common means of existence, they have little to impel them to crime. The country is therefore perfectly safe: highway robberies are never heard of, murder is rarely committed, and great theft is unfrequent; the negroes, it is true, are much inclined to stealing, but they confine themselves to small articles, and such as are not easily missed. That the people have little fear of burglary, a glance at their dwellings will show: no iron bars guard the windows and doors as in most parts of Spanish America, in fact they are so slightly protected that the least exertion will open a passage. Perhaps the greatest crimes with which the Isthmians can be charged are those arising from their licentious habits. Unnatural crimes do not seem to prevail; it is well known however that the women are occasionally guilty of using, in order to procure abortion, several herbs, the most effectual of which is said to be the *Culantrilla de pozo* (*Anemia Seemanni*, Hook.). But being without the Book of books to guide them, having a number of ignorant and sluggish priests who confuse their ideas of right and wrong by indulging in everything contrary to morality and respectable conduct, and living in a tropical climate, where exposures which would cause people of a colder climate to blush are every-day occurrences, they must not be judged too severely.

Schools having only been established in the country districts since the war of independence, the education of the poorer classes, especially of the older people, is very backward, and reading and writing not much diffused.

What appears strange is their total ignorance of time and distance, and even measure and weight. If they want to express that they left a place at eight P.M., and reached their destination at noon, they say, "We left when the sun was there (pointing to the sky), and reached our destination when it was just above us." They have a faint idea that there are such divisions as leagues, but if anybody asks them about the distance from one place to another, they are unable to give a decisive answer, though they may frequently have traversed it.

The Roman Catholic religion, professed by all the natives, is maintained by the state, but other creeds are not prohibited, so long as the laws of the republic are not infringed. Protestant worship, established since the arrival of the North Americans, is performed in private houses. Some of the ceremonies connected with the *cultus* of Catholicism at Panama are probably quite peculiar. Towards Easter the city becomes more lively than usual by the great influx of strangers from all parts of the country; nearly every night processions are formed, which are attended by vast crowds, singing, praying, and strewing flowers. On the morning of Palm Sunday all assemble in the cathedral; the bishop and several priests, bearing palm-leaves, proceed to its principal gate, begging permission to enter. Their chanting is responded to by the congregation within, and after several interrogations and answers, and a heavy knock at the door, the party is admitted. The interior of the cathedral is handsomely decorated, and the clergy, with banners and crosses, and all the young Panamians holding tapers and palm-leaves, march several times round the

nave. In the afternoon the whole town is alive; the balconies, ornamented with palm-leaves and gay-coloured hangings, are filled with spectators, multitudes stroll through the streets, all the bells of the churches and convents are set ringing,—Christ makes his entry; a wooden image, with a gilt "glory" around the head, placed upon a she-ass, is followed by a priest walking under a blue canopy, a number of boys blowing instruments made of palm-leaves, and crowds of people who give vent to their feelings by screaming, whistling, jesting, and laughing. The procession entering the principal gate, proceeds to the Plaza del Catedral, and thence to the Convent of Concepcion, where the ass is entertained with "sweatmeats and wine." After the image and animal have been delivered to the nuns, a boxing-match takes place. The connection between this fight and the religious ceremony the Panamians are not able to explain: it is an old custom, and thought indispensable. On the eve of Good Friday all the churches are illuminated and thrown open. During the night parties consisting of forty to sixty go thither, walking slowly, and praying aloud; the women have white or black kerchiefs over their heads, the men carry their hats in their hands; the pilgrims cast themselves before the altars, repeat a number of prayers, and then proceed to another place of worship. On Good Friday everything is quiet, but at noon on Saturday a curious scene ensues. Silence had reigned up to that time, but just when the clocks strike twelve all the bells begin to ring, cannons are fired, and the people all rush into the streets, making as much noise as possible: some scream, others strike

stones together, here are seen boys sending up rockets, there women dancing. A person beholding these proceedings for the first time fancies that a fit of madness has seized upon the population, and if, after the noise has abated, he asks what all signifies, he learns, to his surprise, that it is the way in which the Panamians celebrate the resurrection of the Saviour. On Easter Sunday mass is performed with great pomp, and the afternoon dedicated to the burning of Judas. A figure, filled inside with rockets, is suspended across the Calle Principal, and, while a band of musicians is playing, moved up and down till it explodes, to the great joy of the multitude. The ceremonies attending the other festivals are equally strange, but this may be a sufficient specimen of the manner in which they are conducted.

The principal amusements are horse-racing, cock-fighting, dancing, music, singing, billiard-playing, cards, and gambling; bull-fights, which in most Spanish countries are the great source of diversion, are so much restricted in New Granada, that they are little practised. It is to be hoped that the government will soon find itself strong enough to prohibit also the demoralizing practice of cock-fighting. Balls are conducted in almost the same manner as in Europe, beginning at nine or ten o'clock, and lasting till three or four in the morning. At midnight a room is opened, where a table is spread, covered with sweatmeats, fruits, and wines; the ladies are conducted thither, stand around it, and after partaking of the refreshments, they are taken back to the ball-room; the gentlemen then return to have their share of the supper. The dances are slow waltzes,

contra-dances, and quadrilles; the polka is too heating, and therefore not much liked. The punta, a dance peculiar to the country, is now seldom seen in ball-rooms, —a matter of little regret: it is performed by only one pair, and consists of a series of quiet movements with the feet, and waving with handkerchiefs. The negroes are very fond of dancing: in moonlight nights they assemble and dance till the morning, accompanied by chanting, a drum made of the hollow trunk of a tree, and an instrument of bamboo filled with pebbles. There are generally conjurors, rope-dancers, and bands of comedians at Panama, who always attract a great mass of spectators.

The amusements of the children are characteristic of the country, being such as require but little bodily exercise, and devoid of that gaiety and wildness which attend the juvenile games in northern regions. Fireworks, kite-flying, "pitch and toss," and mimicking religious processions, form their principal games. The latter, far from being displeasing, is, on the contrary, encouraged; the parents delight in seeing their offspring, at so early an age, practising the outer forms of their worship. But the young soon lay playthings aside, and early assume the air and dress of grown-up people, resembling in this respect most Spanish Americans, of whom it has been sarcastically said, that they are never children and never become men.

The Spanish language, the vernacular tongue, is spoken with greater purity than in most parts of America. It abounds however in provincialisms, and Castilians find much to censure. The letters *c* and *z* are never lisped; the *s* is generally left out if at the end of a word; the *d*

is not pronounced in many instances; the *l* and *r* are often interchanged. Besides these peculiarities, a number of expressions are peculiar to the country, and originated either in the corruption of Indian words or in local causes. French, Italian, and Portuguese, from their close resemblance to Spanish, are understood by many educated people. But it appears that respecting English, some misconception prevails. Captain Basil Hall, when visiting Panama in 1822, met several negroes who could speak the latter, and hence concluded that that language, on account of the intercourse with Jamaica and other British colonies in the West Indies, was much diffused. The conclusion was far from being correct. Before the arrival of the North Americans, there were only few who had mastered it; at present several newspapers are published in English; it is also taught in the College, which will undoubtedly greatly assist in spreading it. Those however who think that within a few years it will become the vernacular tongue, seem to be rather sanguine in their expectations. Many attempts have been made to establish English in Wales, Ireland, and the Highlands of Scotland, French in Alsace, and Danish in Holstein, but little progress has yet been made. To suppress a language by substituting another, is a most difficult and tedious task: a satisfactory result must be the work of centuries.

CHAPTER XX.

The Indians of the Isthmus—Their early Intercourse with Mexico and Peru—Dorachos — Savaneries —San Blas Indians — Bayanos — Cholos.

HAD the invasion of the Spaniards been delayed a few centuries, the Isthmus would probably have witnessed a collision between the two greatest nations of America,—the ancient Peruvians and the Mexicans. While the Incas were pushing their conquests to the north, the Aztec monarchs extended their empire toward the south-east, and ere long they would have come in contact. Although there is a difference of opinion amongst historians as to whether these nations possessed a knowledge of each other's existence, there can be no doubt that the aborigines of the Isthmus were aware of the opulence and power of both. At the time of the discovery a constant intercourse was kept up between Veraguas and Central America, which was intimately connected with, or, as others assert, formed a part of the Mexican empire. Peru was equally known to the Isthmians. Balboa, long before reaching the Pacific Ocean, received informa-

tion concerning an empire of great wealth; and after he had arrived at the Gulf of San Miguel, the Indians traced on the sand the outline of the llama, an animal peculiar to Peru. As pictorial illustrations, to which the Incas were strangers, could not have conveyed to the Dariens an idea of the animal, it is not unreasonable to conclude that the informers had actually visited the dominions, the productions of which they described, for which their never-sinking rafts of balsa-wood and the light winds of the south-west coast offered great facilities. Cundinamarca was still nearer; and, if they were acquainted with regions so distant, they could hardly be ignorant of that degree of civilization which the inhabitants of those parts enjoyed in which at present the city of Bogotà stands.

But the aboriginal Isthmians, however extensive their knowledge of foreign nations may have been, had derived little benefit from it. They were rude and barbarous savages, who, divided into many hostile tribes, waged continual warfare with each other. It is only in Western Veraguas that traces of a more civilized people are found. These parts were inhabited by a numerous tribe, the Dorachos, and still show their remains,—tombs, monuments, and columns of different sizes, covered with fantastic figures, or representations of natural objects, differing entirely from either the hieroglyphics of Mexico or those of Central America. At Caldera, a few leagues from the town of David, lies a granite block, known to the country-people as the "Piedra pintal," or painted stone. It is fifteen feet high, nearly fifty feet in circumference, and flat on the top. Every part, especially the

eastern side, is covered with figures. One represents a radiant sun; it is followed by a series of heads, all with some variation, scorpions, and fantastic figures. The top and the other sides have signs of a circular and oval form, crossed by lines. The sculpture is ascribed to the Dorachos, but to what purpose the stone was applied, no historal account nor tradition reveals; it seems probable however that it was intended to commemorate their annals. Many Indian nations claim descent from the sun, and perhaps on that account a representation of that body is placed first; the heads may possibly denote the different chiefs, and the various appendages be meant to express particular occurrences of their reigns. What the other characters may signify is difficult to say, but they are too irregular and too much scattered about to be mere ornaments: symmetry is the first aim of the savage in beautifying. The characters are an inch deep; on the weather side however they are nearly effaced. As they no doubt were all originally of the same depth, an enormous time must have elapsed before the granite could thus be worn away, and a much higher antiquity must be assigned to these hieroglyphics than to the other monuments of America. Several columns are seen in the town of David, where they are used for building purposes; the characters on them differ from those of the "Piedra pintal," by being raised and considerably smaller.

The Guacos, or tombs, of the Dorachos are of interest; they are extremely numerous, and attest that the country was thickly populated. They are of two descriptions: those upon which the most pains have been bestowed,

and which probably enclosed members of the wealthier classes, consist of flat stones put together, resembling in shape and size the coffins used in Northern Europe; they are slightly covered with mould, and earthen vases are found within; the vessels are of good workmanship, and in the shape of basins or of tripods, the legs being hollow, and containing several loose balls. Occasionally round agates, with a hole in their centre, and small eagles have been met with. It seems to have been customary among the Doracho tribe to wear these eagles around the neck, by way of ornament; Ferdinand Columbus frequently mentions them when speaking of Veraguas and the adjacent Mosquito shore. Several have been found in the last few years; most of them measure from wing to wing about four inches. Tombs of the second class are more frequent: they consist of a heap of large pebbles, from three to four feet in height, and descending as much below the surface; no vases or ornaments are found in these graves, but always one or more stones for grinding Indian corn, made, like most of the vessels, with three legs. The present inhabitants, who still pursue the same method of making bread as those who formerly occupied the country, value these stones highly, and pay a high price for them. In several instances bodies have been met with, which however at the slightest touch crumbled into dust. The inhabitants of the canton of Alanje speak of other remarkable remains in the Northern Cordillera; one of which is said to be a rocking-stone, but no satisfactory account could be procured.

From the scanty information left by historians, it is

impossible to decide whether the tribes who inhabited Northern Veraguas at the time of its discovery were connected with the Dorachos. Ferdinand Columbus says, "They are divided into several small communities, and governed by caciques. The principal towns of the district are Zobraba, Urira, Veragua, Dururi, and Cateba. The customs are for the most part the same as those of Hispaniola and the adjacent islands. The people of Veragua and the neighbouring country, when talking to one another, are constantly turning their backs, and they are always chewing an herb, which we believe to be the reason that their teeth are rotten and decayed. Their principal food is fish; they have abundance of maize, from which they make red and white *chicha*, or beer; they also prepare several sorts of wine from the pith of palms and the fruit of several other trees. They are skilful in manufacturing golden ornaments, and keep up a constant intercourse with the inhabitants of Central America*."

At the time of the discovery the Indians of Darien and Panama had made less progress towards civilization than those of Veraguas, though they were more polished than the aborigines of Santamarta and the coast previously explored by the Spaniards. There were no monuments, nor any towns or villages, the houses being scattered at irregular distances. War was frequent between the different tribes, and the flesh of the enemies was devoured by the victors. The men, when not engaged in fighting, occupied themselves with fishing, hunting, and cultivating the fields, while the women performed domestic duties. Both sexes had some kind of dress, differing in

* Kerr's Voyages and Travels, vol. iii. chap. i.

this respect considerably from the natives of the West India Islands; the men wore around their loins a covering composed of sea-shells, the women garments of cotton, which reached to the feet. Polygamy prevailed, but only the eldest son of one wife was considered legitimate. When a chief died, the heir and twelve of the chief's people, wrapt in sheets, sat all night around the corpse, singing in a melancholy tone the exploits and history of the deceased; the canoes, arms, fishing implements, etc., were burnt, in the belief that the smoke ascended to the place whither their lost friend was gone. All the concubines were interred with the chief, it being believed that they would go with him to a place where their services would again be required. The corpse, after being enclosed in the best blankets (*mantas*), and decorated with golden ornaments, was suspended over a fire, and the grease dropping out carefully collected into earthen vessels; when dry, the body was interred, or, in some districts, preserved above ground.

The natives seem to have had some knowledge of a Supreme Being, to whom was attributed the power of causing the celestial movements, sunshine, rain, etc., and they attached much faith to certain men called Masters, who were supposed to be gifted with supernatural powers, and capable of foretelling the future. Each of these "Masters" possessed a hut, without either door or roof, and on being consulted went into his hut, whence, after repeating a prayer, he returned with an answer. The belief in witchcraft also existed, the witches being thought to be connected with the devil, and capable of injuring infants, and even adults. Evil spirits were

seen in different shapes, generally in that of a beautiful youth; the latter appearance was adopted not to frighten the victims, and secure them more easily. There was a tradition of a deluge: when the flood came a man with his wife and three sons escaped in a large canoe, and afterwards peopled the world*.

The Indians who at present inhabit the Isthmus are scattered over Bocas del Toro, the northern portions of Veraguas, the north-eastern shores of Panama, and almost the whole of Darien, and consist principally of four tribes, the Savanerics, the San Blas Indians, the Bayanos, and the Cholos. Each tribe speaks a different language, and they are not unfrequently at war with each other. A campaign of some duration took place in 1847 between the Bayanos and San Blas Indians, and engaged the energies of the former to such an extent that for some time their trading voyages to Panama were suspended, which caused a scarcity of provisions amongst the inhabitants of that city.

The Savanerics occupy the northern portion of Veraguas, and appear to be most numerous in a district situated a few days' journey from the village of Las Palmas. One of their chiefs has adopted the pompous title of King Lora Montezuma, and pretends to be a descendant of the Mexican Emperor conquered by Cortez; almost every year he sends ambassadors to Santiago, the capital of Veraguas, to inform the authorities that he is the legitimate lord of the country, and that he protests against any assumption on the part of the New-Granadian government. These ambassadors, who appear in mean dresses, and make known

* Herrera, 'Historia General,' Dec. IV. libro i. cap. 10 y 11.

their mission in broken Spanish, are generally treated with ridicule. Although no credit can be attached to the assertion of King Lora that he is a descendant of the great Montezuma, yet there is reason to suppose—and future investigations may tend to corroborate the supposition—that his subjects are a remote branch of the great family of Anahuac. Direct intercourse existed at the time of the discovery between the southern portions of the Mexican empire and Veraguas; little eagles, the national emblem of Mexico, are frequently met with in the tombs of the district, and chocolate is still the prevalent drink. Such facts are, in themselves, important enough to draw upon this tribe the attention of the ethnologist. Unfortunately no European has as yet had time to study it, and the Spanish inhabitants are too indolent, and, it may be added, too much prejudiced against the Indians, ever to arrive at correct conclusions, or to make proper use of the rich materials scattered around them. How they reason may be inferred from the following: A gentleman, more intelligent than the generality of his countrymen, said, "The very fact that that Indian takes the name of Lora, that of a parrot, is sufficient to show what a man he must be." I told him however that "Lora," in the language of the natives, might have an entirely different signification, and that the mere similarity of sound was no proof of identity of meaning, and that the proceedings of this Indian chief looked so business-like, that, in my opinion, he must either be himself a superior man, or must have some European counsellor to direct his movements.

The Savanerics are a fine athletic race, but are hardly

distinguishable from their neighbours by any peculiarity of features. Their dress consists of short loose breeches, a kind of frock, and a broad hat. The garments are made either of wool, cotton, or the fibre of the Cucua. Dresses of the latter are common to all the Indians of the Isthmus, and, if well made, are perfectly waterproof. Their arms consist of bows, arrows, and spears, better adapted perhaps for hunting than for war. In their villages they live together in palenques, circular buildings, containing in the centre a spacious hall, and on the sides smaller apartments, in which the different families, or perhaps the branches of one large family, reside. Polygamy prevails universally, and, as in most communities where this institution exists, the women are considered as inferior beings; they have to perform all the hard labour,—however heavy the burden, however great the distance to which it has to be transported, the wives have to carry it, while their husbands, with their bows and arrows in their hands, leisurely walk by the side, and probably amuse themselves by playing with the dogs or shooting birds.

Their food consists chiefly of Indian corn. They catch fish by poisoning the water with the pounded leaves of the Barbasco, and make excursions which furnish deer, sajinos, pigs, and wild turkeys. Cacao and maize, roasted and reduced to powder, are used for making their principal beverage. Their mode of disposing of the dead is the same as that of their forefathers. The corpse is wrapped in bandages, slowly dried over the fire, then deposited on a scaffold, and for some time supplied with food and drink. Besides their own clothing, the Indians

manufacture from the fibres of the Pita (*Bromelia* sp.) bags of all sizes and colours, known by the name of *chacaras*, and they collect the resin of the Saumerio (*Styrax*), which, emitting an agreeable odour, is burnt as incense in the churches of Veraguas. Mules, horses, donkeys, and cattle are bred by them in great numbers, and taken to the adjacent towns and villages. Whatever may be disposed of, they seldom accept money in exchange; the most welcome return are knives, machetes, and other cutting instruments, and above all dogs, for which they have a great liking; unfortunately their fondness does not seem to be exercised in the same manner as among civilized people; the poor animals, after having been some time with their new masters, become very lean and skinny.

In order to ascertain the height of an object, a peculiar method of measurement is in use. In measuring the height of a tree, for instance, a man proceeds from its base to a point where, on turning the back towards it, and putting the head between the legs, he can just see the top. At the spot where he is able to do this, he makes a mark on the ground, and then paces the distance to the base of the tree: this distance is equal to the height. This method, in which, from constant practice, the Indians have attained a skill almost approaching to geometrical accuracy, answers the common purposes of life, and is universally practised by the Spaniards of Veraguas.

The Manzanillo, or San Blas Indians, inhabit the north-eastern portion of the province of Panama. They occasionally visit Portobelo and the neighbouring vil-

lages, and live in almost constant feud with the Bayanos. It was probably this tribe that came in conflict with Columbus's crew during his fourth voyage of discovery, when, unlike most savages, they exhibited no fear at the discharge of the cannons; the thunder of man probably appeared to them insignificant when compared with the terrible tornadoes that so frequently visit their coast. But this must at present remain a matter of conjecture, as our knowledge of the tribe is very limited; of its language we are totally ignorant.

The Bayanos inhabit the district about the river Chepo, and are a warlike people, who up to this time have preserved their independence, jealously guarding their territory against the white man. Their dislike of Spaniards and their descendants is intense, and strongly contrasts with their friendly disposition towards the English,—a feeling entertained since the days of Dampier and Wafer. British vessels annually touch at the northern coast for the purpose of trading, and it is probably from that source that some of the Bayanos have obtained a smattering of English. Their cacique has frequently paid visits to the British representative at Panama, but there the friendship ended: the consul, on asking permission to show the same mark of attention to the chief, was told that no Europeans were allowed to enter the country, and if he attempted such a journey it would cost him his life.

The Cholo Indians are a widely diffused tribe, extending from the Gulf of San Miguel to the Bay of Choco, and thence with a few interruptions to the northern parts of the Republic of Ecuador. They may be traced along the coast by their peculiar mode of raising their habita-

tions upon poles six or eight feet above the ground. Their wide range explains an historical difficulty. In reading of the discovery of Peru, how the Spaniards gradually pushed southwards, everywhere making inquiries about the empire of the Incas, and even obtaining information of the city of Cuzco, we are at a loss to understand how it was that the accounts given by the natives were intelligible to them. Even the best historians have left this enigma unexplained. But the fact that the same language is spoken from San Miguel to those districts where the Quichua commences, and that it was familiar to the Spaniards before they started, enables us to comprehend how the existence of the dominions of Atahualpa could be known on the banks of the Churchunque, how Balboa could receive information respecting the llama, and how Pizarro and his followers could converse with natives who had never before beheld the face of a white man.

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